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**A SURVEY OF
THE CATTLE HIDE INDUSTRY**

**Discussion of Function, Principals and
Operational Techniques in an Old West Region,
National and International Context**



THE OLD WEST REGIONAL COMMISSION

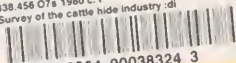
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A Survey of the cattle hide industry : di



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A SURVEY OF

THE CATTLE HIDE INDUSTRY

**Discussion of Function, Principals and
Operational Techniques in an Old West Region,
National and International Context**

Prepared for the
Old West Regional Commission

by
Montana Export Company
Great Falls, Montana

GRANT NO. 10971094
804087

THE UNIVERSITY OF CHICAGO

PHILOSOPHY DEPARTMENT

PHILOSOPHY 101: INTRODUCTION TO PHILOSOPHY

LECTURE 1: THE FOUNDATIONS OF PHILOSOPHY

1.1 The Nature of Philosophy
1.2 The History of Philosophy
1.3 The Role of Philosophy in Society

LECTURE 2: METAPHYSICS

2.1 Being and Essence
2.2 Substance and Accident

2.3 Causality and Time

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Although most nations produce cattle for slaughter and, therefore, have a domestic cattle hide supply, few nations produce sufficient quantities to meet both domestic hide demand and offer surpluses in export markets. The United States is the largest cattle producing country in the world and controls 44% of all hides in international trade. Australia, France, Canada, Germany and the U.S. account for over 75% of all hides available on international markets.

Cattle hides, in a cured, untanned condition are imported by a large number of countries. Over 30 nations import more than 10,000 cattle hide pieces from U.S. sources annually. Japan is the U.S.'s largest trading partner in this commodity, followed by the Republic of Korea, the Republic of China and Italy.

There is a near perfect association between cattle slaughter and cattle hide supply. In 1979 the U.S. slaughtered approximately 33 million cattle for meat. This is about 30% above cattle slaughter in 1962. In 1962 27% of all U.S. hides were sold in export trade. In 1979 over 70% of the U.S. cattle hide supply was sold abroad.

Tanners and cattle hide brokers selling to tanneries are the exclusive consumers of brine cured hides. In 1972, 468 tanneries produced leather in the U.S. By 1978 only 380 tanneries remained in operation. The U.S. Department of Commerce predicts that the industry will continue to decline by about 2% annually through 1983.

The largest twelve packers in the U.S. account for over 40% of total U.S. cattle slaughtered. Fifty-one percent of all packers account for less than 1% of total annual kill. Large packers are already involved in marketing their hide inventory overseas. Small packers depend upon hide dealers to buy, collect, sort, process and resell their hides.

Six states account for over 60% of the national cattle slaughter in the U.S. Texas ranks first with Nebraska, an Old West Region state, ranking second. Nebraska itself accounts for over 15% of national cattle slaughter. The Old West Region (Montana, North Dakota, South Dakota, Wyoming, Nebraska) slaughters 17.4% of total national slaughter. South Dakota slaughters about .5 million cattle per year ranking as second in the Old West Region. Montana, North Dakota and Wyoming follow.

Packing plants produce meat for sale at wholesale and retail. A byproduct of the slaughtering process are hides. As packing plants increase in size the trend is to integrate hide processing facilities to the plant's configuration.

Rendering plants sometimes act as a cattle hide dealer, buying hides from small packing plants and combining these with hides that they strip from dead animals. They will then resell the hides that they have gathered and processed to larger dealers or brokers.

Hide dealers buy hides for their own account from small packers and rendering plants, perhaps process the hides and resell them to larger brokers or to processors themselves. They do not normally sell hides to international markets directly.

Hide processors can either be contracted for their services or buy hides for their own account. In either case the processor will process "green" or "wet-salted" hides and trim, sort, brine cure, flesh and grade the hides. These hides will be sold to an export broker or to a tannery for tanning.

Export brokers buy hides for their own account and resell to domestic and foreign brokers and tanneries. It has been estimated that the five largest export brokers are responsible for over 50% of all U.S. hide exports.

Tanneries rarely buy for their own account until a leather supply contract has been negotiated. Such an agreement would insure a market for tanned hides produced through the tannery.

Physical steps necessary for preparing a hide for market include:

- o Stripping the hide off the carcass
- o Salting
- o Washing
- o Trimming
- o Brine Soaking
- o Fleshing
- o Grading
- o To Tannery for tanning

A packer killing less than 10,000 cattle per year normally sells his hides to a rendering plant or cattle hide dealer. The dealer collects and sorts the hides of several small packers and either contracts for hide processing or sells the hides directly to a processor. The hides are processed and either resold to a larger broker or marketed directly by the processor.

A packing plant killing 100,000 cattle per year may have entered into a contract with a processor to buy hides or may belong to a cooperative processing association. The processing facilities perhaps market hides directly to tanneries or alternatively use export brokers to find markets for their hides.

It is quite likely that packers killing above 300,000 cattle per year have their own, wholly-owned processing facilities, selling their hides to domestic and foreign brokers and tanneries. These packers will often employ their own hide sales staff.

A survey was sent to packers in the Old West Region. Forty-five percent of possible respondents returned a questionnaire. Ninety-five percent of the responses represented less than 4.5% of the total number of hides available from respondents. One respondent represented 15% of the total national annual slaughter, although much of this activity results from slaughtering outside of the Old West Region. Sixty-one percent of all respondents indicated that they slaughter less than 10,000 cattle per year. The majority of responding packers indicated that they sold either "green" or "wet salted" hides. Most hides available through packers however were in a "brine cured, trimmed, fleshed and graded" condition.

Only 6.5% of packers responding to the survey sold the majority of their hides internationally. Only two buying entities were mentioned by packers. They either sold to independent domestic buyers or intermediary processors. Packers believe that end user demand for hides is most directly responsible for hide price fluctuations. U.S.D.A. believes that cattle hide supply effects hide prices more dramatically than fluctuations in hide demand by end users.

Export brokers buy hides for their own account and resell the hides to other major brokers and tanneries. A survey was mailed to the 85 firms identified within this sector in the U.S. Thirty-five percent of all export brokers responded to the survey. Twenty-six percent of the respondents indicated that

they sold more than 600,000 hides per year. The mean value of this response, very conservatively estimated, was 300,000 hides sold annually. Most export brokers are located in New York, California and Texas. Almost 90% of the respondents sell between 50 and 100% of their hide inventory abroad. The mean value was 75%. Export brokers very rarely deal in semitanned or tanned hides preferring to deal in green, wet salted and brine cured hides. Brokers normally sell hides via a confirmed irrevocable letter of credit internationally. They quote C.I.F. to markets abroad. They also use representatives to service their overseas accounts. Brokers forward market for their hide supply, acquiring an average of 40% of their hides using this method.

Cattle hide quality is determined by a hides "selection" and "grade". Selection refers to the origin, weight and branding of a hide. Grade refers to the hides' cure, trim and relative damage and is determined after the hide is processed. A premium hide would be a heavy native steer, #1 hide.

Cattle hides are priced using a market report which is published weekly. Three or four of these reports are used routinely by all principals in hide trading. They report the previous weeks offering and selling prices as well as estimating total cattle slaughtered, comparing it with the previous years' estimates. This in conjunction with a processors, dealers, packers, or brokers "feel of the market" determines offering and asking prices. Hide prices fluctuate dramatically and hedging, once the hide is brine cured, plays an important role in hide trading.

Recommendations

Through this project several interesting features were noted. First, small packers almost universally desire Old West Regional Commission assistance in

selling their hides. This does not seem practicable to the investigators however.

Secondly, several larger packers indicated that they may be interested in participating with the Old West Regional Commission Marketing Program. These firms possess a supply of brine cured, trimmed, fleshed and graded hides and have the ability to directly respond to foreign hide purchasing inquiries received by the Commission. Old West Regional Commission staff should directly discuss a marketing assistance program for these packers directly with the firm's Chief Executive Officers.

Thirdly, several larger packers also indicated interest in investigating opportunities in establishing a cooperative hide processing facility. These firms collectively represent approximately .5 million hides annually. If this inventory was located at a central site, using industry standards, a processing facility would seem to be viable. These plants are not located adjacent to each other however, so an investigation into the feasibility of developing such a facility may be warranted. It may also be possible that a foreign interest could be identified that would financially participate in the development in return for an assured, directly accessible supply of brine cured hides.

Fourth, it has been mentioned by packers in the region that an international consumer education program discussing the merits of leather as opposed to synthetics such as polyvinylchloride could result in strengthening demand for cattle hides. As the Old West Region derives significant employment and revenue benefits through the operations of the industry, cooperation in the development of such a program should be contemplated. Reportedly there is movement at the Federal level towards implementation of a program to highlight the renewable nature of leather versus plastics derived from non-renewable hydrocarbons.

WORLD CATTLE HIDE SUPPLY

Although most nations possess domestic cattle herds, meat packing plants and, therefore, a cattle hide supply, few countries slaughter sufficient numbers of cattle to meet both domestic hide demand and provide surpluses to export markets. In addition to classic hide supply questions export controls and restrictions, in some of the world's largest cattle producing countries, limit or preclude hide exports.

The United States is the largest cattle producing nation in the world and also provides the greatest volume of hides to export markets. In 1978 the U.S. accounted for approximately 25% of the world's cattle production and 44% of the world's hide exports. The Soviet Union ranks second in the world in cattle production, however it does not rank within the top twenty cattle exporting nations. Australia, ranking fifth in cattle production, ranks second in world cattle hide exports. Brazil and Argentina rank third and fourth in cattle production respectively, each accounting for about 15% of the world's total. Both of these nations restrict hide exports, preferring to process and tan their hides domestically and produce semifinished and finished leather goods. France and Canada assume third and fourth positions in hide exporting accounting for about 13% of the world's hide supply in export markets. Below are the relative positions of selected nations in both cattle production and their rank in hide exporting.

TABLE 1

HIDE PRODUCTION AND CATTLE HIDE EXPORTING RANK

<u>Country</u>	<u>Hide Production (000mts)</u>	<u>Exporting Rank</u>
United States	1,170	1
Soviet Union	741	22
Brazil	348	Negligable
Argentina	338	7 (Controls)
Australia	203	2
France	165	3
Germany	134	5
Mexico	120	Negligable
Canada	95	4

SOURCE: U.S. Department of Agriculture, Task Force Report, July 1979

Through this very brief introduction to world cattle hide supply it should be noted that relatively few nations are responsible for the majority of the world's hide supply to export markets. The U.S., Australia, France, Canada and Germany account for over 75% of all hides in international markets.







Appendix 1 presents data concerning production of cattle hides by country while Appendix 2 concerns cattle hide exports by country of destination.

WORLD CATTLE HIDE DEMAND

Unlike world cattle hide supply, cattle hide demand is diverse and encompasses every world region. Of these areas Europe and East Asia constitute the largest hide importing regions.

CHART 1

U.S. Cattle Hide Exports
REGIONAL MARKET SHARES*

INTERNATIONAL REGION	YEARS		U.S. HIDE EXPORTS 1972, 1979
	1972	1979	
North America and Mexico	15.2%	15.4%	
Latin America	1.8%	.4%	
Europe including U.S.S.R.	35.7%	33.6%	
Middle East/ South Asia	1.0%	.3%	
Asia	45.3%	46.4%	
Other Areas	.03%	2.6%	

*Totals do not add due to rounding

Source: Derived, Leather Industry Statistics.

Asia represents the largest consumer of U.S. cattle hides. This has risen significantly over the 1972-1979 period. Every nation in East Asia imports cattle hides of U.S. origin. Japan is by far the U.S.'s largest trading partner in the world followed by Korea. The European region is the second largest consuming area importing U.S. cattle hides. Italy is the largest single importing nation in Europe for U.S. cattle hides.

Cattle hides, the basic raw material input for leather, are used exclusively by tanneries when in an untanned condition. Development of tanneries, however, is directly associated with domestic and regional leather demand. Leather is used primarily in manufacturing garments, shoes, gloves, accessories, luggage, book bindings, upholstery and transmission belting. Primary end users are within these sectors and a simple correlation between the numbers of manufacturers in these sectors and rate of growth (or decline) of these industries on a nation specific basis yields an accurate inventory of importing and potential importing countries.

Below are nations which imported more than 10,000 pieces of cattle hide in 1978.

Canada	Greece	Korea
Mexico	Spain	Peoples Republic of China
Venezuela	Bulgaria	Republic of China
Brazil	Hungary	Algeria
West Germany	East Germany	South Africa
Sweden	Poland	United Kingdom
Yugoslavia	Netherlands	U.S.S.R.
Belgium	Romania	Finland
Czechoslovakia	France	Israel
Switzerland	Japan	Italy
Hong Kong	Portugal	Philippines

SOURCE: U.S. Department of Agriculture, Task Force Report, July 1979

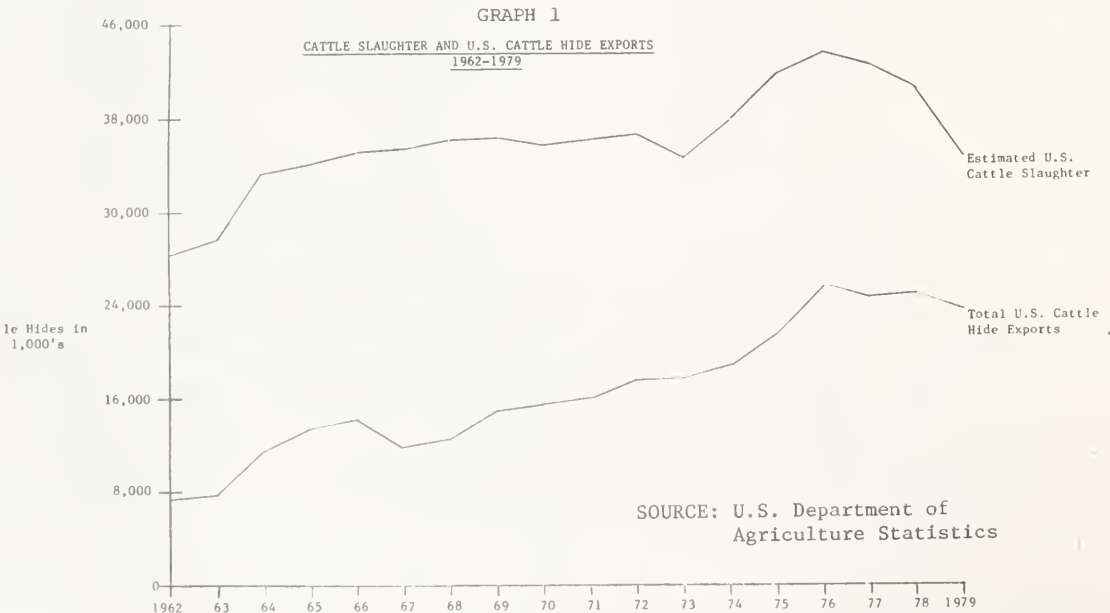
Cattle hides are exported primarily in an untanned, curred condition. Tanneries, their brokers or independent brokers selling to tanneries, therefore, will purchase foreign cattle hides for processing either in their country or a third country for use in foreign leather products manufacturing plants. Although

the frequency of cu red hide export to second nations for tanning and reexport to the country of cattle hide origin is increasing it represents a small fraction of total cattle hide trading. Therefore, foreign tanneries, their brokers and independent brokers are responsible for acquiring cattle hides from other nations for tanning and domestic end use.

U.S. CATTLE HIDE SUPPLY, DEMAND AND TRADING TRENDS

There is a near perfect association between cattle slaughter in meat packing plants and cattle hide availability. The association between these two factors effect not only hide supply but hide pricing as well. There is also a near perfect inelasticity between hide price and hide demand due to the relatively minor cost that leather represents in the total cost of finished leather goods. Ranchers, however, do not make livestock marketing decisions on the basis of the value of their livestock's hide. Therefore, in theory, the price of meat directly relates to both hide availability and hide price as hide and leather demand remains fairly constant.

Cattle slaughter in the U.S. has increased gradually since 1962 with moderate fluctuations between 1973 and 1979 (See Graph 1). In 1979 cattle slaughter was just a fraction less than 30% above total national in 1962. In 1962 27% of all U.S. hides were exported. By 1979 over 70% of all hides were exported.



Domestic Demand

Hides when stripped off of a carcass have little value. Only through partially curing can a hide be stored. Domestic demand for cured hides has weakened considerably over the past decade. Without needed tanneries partially cured and cured hides cannot be transformed into finished leather. Although cattle slaughter and, therefore, hide availability has increased, the number of tanneries in operation domestically has decreased significantly over the same period. The number of tanners has declined steadily since 1968. In 1972, 468 plants produced leather domestically. Six years later only 380 tanners remained in operation. Over the ten year period between 1968 and 1978 production of all leathers declined 37% in the U.S. The U.S. Department of Commerce predicts that the tanning industry will decline by 2% per year through 1983.

A number of reasons have been given for the decline of the tanning industry. These range from stringent environmental controls on plant emissions to the industry using antiquated processing equipment. With this as a premise it is logical that U.S. packers, processors and brokers begin to more enthusiastically attempt to penetrate export markets for cured U.S. cattle hides.

U.S. Hide Supply

A U.S.D.A. Task Force report indicates that over 22% of total U.S. cattle slaughter is conducted by four packers. The largest twelve packers account for over 40% of national slaughter. Of a total of 1,531 Federally inspected plants 779 (51% of the total) account for less than 1% of the national total. 12% of all plants accounts for 83% of total slaughter. As will be discussed in more

detail in later sections of this report, larger packers and their associated processors are already actively engaged in international marketing. Most smaller packers are dependent upon hide dealers to collect, sort, process and resell their hides.

In 1963 the U.S. produced 26,083,000 cattle for slaughter. Between 1962 and 1979 cattle slaughter rose to a high of 42,000,000 hides in 1976. By 1979 hide production declined to about 33,000,000 hides.

Geographic Distribution

Of the 33,000,000 cattle slaughtered in 1979 over 60% were slaughtered in six states. Texas accounted for approximately 16% of the U.S. total. Nebraska, an Old West Region state, consistently ranks second and accounts for about 15% of the national total. Presented below in Table 2 are the six primary cattle producing states with their 1979 production and the percentage that this represents of the U.S. total.

TABLE 2
CATTLE SLAUGHTER IN SELECTED STATES, 1979

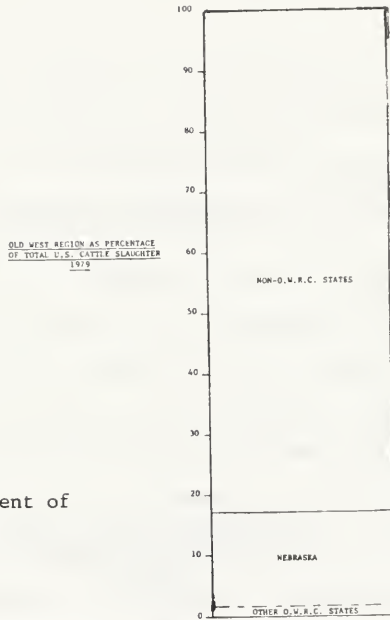
State	Volume of Kill	Percent of Total U.S.
Texas	5,390,000	16
Nebraska	5,085,600	15.1
Iowa	3,234,800	9.6
Kansas	2,784,100	8.2
Colorado	2,258,000	6.7
California	2,084,800	6.5

SOURCE: U.S. Department of
Agriculture Statistics

THE OLD WEST REGION

In 1979 the Old West Region produced 5,861,100 head for slaughter which represented approximately 17.4% of the total U.S. slaughter. Graph 2 visually defines this relationship.

GRAPH 2



SOURCE: U.S. Department of
Agriculture

Within the Old West Region Nebraska accounts for the vast majority of cattle slaughtered. Nebraska accounts for over 86% of all cattle slaughtered in the region. Graph 3 addresses this relationship.

GRAPH 3

CATTLE SLAUGHTER IN THE OLD WEST REGION, PERCENTAGE BY STATE 1979



SOURCE: U.S. Department of Agriculture

South Dakota accounted for 552,000 head slaughtered in 1979 ranking it second. Montana ranks a distant third slaughtering 150,700 head in 1979. North Dakota and Wyoming consistently rank in fourth and fifth positions. Table 3 presents cattle slaughter statistics for Old West Region states for the period 1969-1979.

TABLE 3

CATTLE SLAUGHTER BY STATE IN THE 5 STATE OLD WEST REGIONAL COMMISSION AREA IN THOUSANDS (1,000's) 1969-1979

YEAR	STATE					TOTAL U.S.
	MONTANA	NORTH DAKOTA	SOUTH DAKOTA	NEBRASKA	WYOMING	
1969	197.8	183.4	681.5	4,159.0	26.4	35,298.3
1970	208.1	195.9	661.5	4,338.0	31.2	35,086.7
1971	208.1	199.8	506.0	4,428.0	20.4	35,650.7
1972	210.2	206.3	550.0	4,699.0	20.7	35,842.4
1973	188.5	172.4	559.0	4,307.0	20.3	33,686.8
1974	185.3	217.3	713.0	4,754.0	22.9	36,811.5
1975	151.8	283.2	744.5	4,777.0	32.1	40,911.2
1976	154.4	273.6	822.0	5,006.0	35.1	42,654.4
1977	170.9	276.0	775.6	4,612.8	26.3	41,856.4
1978	158.0	116.9	733.9	5,365.1	19.8	39,552.1
1979	150.7	57.3	552.0	5,085.6	15.5	33,677.6

SOURCE: U.S.D.A.

PRINCIPALS IN CATTLE HIDE SUPPLY, PROCESSING AND MARKETING

Before proceeding further, it is necessary for the reader to understand the roles of principal functionaries which are in many ways unique and perform functions which are fundamentally different than intermediaries in other businesses. Some add value to hides by performing various tasks to cure or tan hides. Others collect and transport hides. Others are involved in marketing operations.

Presented below is an inventory of these entities and discussion concerning their role. Although all of these participate in the national and international processing/marketing flow of hides only a few of these would participate in any one specific hide transaction. Discussed here are typical combinations of these groups.

Packing Plants

The packing plants primary purpose is to produce meat for wholesale and retail markets. Slaughtering produces a number of saleable byproducts. Although packing plants share this common purpose packing plants may differ a great deal in their plant configuration and byproduct processing capabilities. The determinate that dictates plant capabilities is daily, weekly, monthly and annual kill volume. As size increases the trend is to integrate a number of byproduct processing capabilities. One of these is an ability to process hides.

Rendering Plants

Another source of cattle hides is the rendering plant where cattle dying in the field are taken for rendering. These facilities acquire dead animals to produce

various animal foods and feeds, organic compounds and natural resins. These facilities also buy byproducts from packers such as offals and occassionally cattle hides from smaller packing plants. Many of the hides (up to 60%) taken from dead cattle are not usable in the leather industry due to putrifaction. These are cycled into organic compounds. Usable hides and hides purchased from packers are resold to other, higher volume cattle hide markets.

Hide Dealers

A hide dealer specializes in buying, collecting and curing hides produced in small to medium scaled packing plants. They are the initial brokers, buying hides for their own account, performing basic, necessary curing functions and reselling their inventory to larger brokers, processing plants or tanneries. Very frequently hides purchased by dealers are of relatively inferior quality due to the curing steps or lack thereof that small packers place on their hides.

In the Old West Region hide dealers are very active due to the relatively large number of small packers in the region. The dealer, because of his daily interaction with national markets, can sense price fluctuations that occur frequently and dramatically. The dealer, because of higher hide volume than the individual packing plants which he services, can afford to invest in processing equipment necessary to cure a hide properly. They may also contract out for hide processing. The dealer then sells his inventory to processors, tanneries or other brokers who handle a greater volume of hides than the dealer.

Processors

A hide in "green" condition will putrify within hours if it is not properly

handled. Depending on the packer these hides may be salted or moved directly into a processing facility. An industry trading standard is the brine cured, fleshed, trimmed and graded hide. A processing plant is designed to take green or "wet salted" hides and convert them into a brine cured, fleshed, trimmed and graded condition. It is necessary to invest capital in equipment that can perform this function.

Hides are delivered to a processing facility which is either in a packing plant at large facilities, or transported to a processor that may be several hundred miles from the origin of the hides. The hides are then washed, in a washing area, and taken to trimming and sorting areas where the hides are cut into a standard pattern. The hides are then deposited in a brine solution in what are termed "raceways" which are tanks that normally can hold 1000 hides at a time. The brine is agitated and the hides are left in suspension for approximately 18 hours. The hides are removed from the brine and fleshed. Fleshing removes a high percentage of the water left in the hide from the brine cure. The hides are then graded, bundled and placed into storage pending sale.

Processors can either be contacted for their services or they can buy hides for their own account. Some processors have their own marketing capability which allows them to sell directly to domestic and international brokers and tanneries. Others use brokers exclusively or have established relationships with brokers to market their inventory.

Large dealers, packing plants and brokers may have their own, wholly owned processing facilities.

Brokers

Within the hide industry the term broker is used extensively and has a meaning which is peculiar to the industry. Normally a broker would be considered as an individual or firm that without investing in a product or commodity itself makes a profit from the selling and buying of the commodity or product. The broker uses knowledge of both the seller and the buyer to profit. A broker in the hide industry is an individual or firm that buys hides for his own account and then resells the hides to the buyer. Often the broker has established himself as both a sales broker for a processor or large packer and also as a buying broker for a foreign or domestic tannery or another broker.

Export Broker

In this report the term export broker is used to differentiate several brokers within the U.S. that control a high percentage of all U.S. hide exports. U.S.D.A. has estimated that the five largest brokers in the U.S. account for over 50% of all U.S. hide exports. In that the U.S. accounts for over 40% of world hide supply these five firms are responsible for bringing at least 20% of the world hide supply to market.

Tanneries

The primary destination of all brine cured hides is the tannery, whether the tannery is located in Japan, Korea, Italy or the U.S. Brine cured hides have the ability of being stored for between 9 months and 1 year and allows the hide owner to watch market conditions and hedge in the commodities definition of the word. Tanneries within the U.S. very rarely buy hides for their own account unless they

have already contracted with a leather buyer to provide the product. Processors, brokers and at times dealers and packing plants with processing capabilities sell to tanneries. In the tannery the hide, normally in a brine cured condition is processed into finished leather. Although this report does not address the processing stages within the tannery attached as Appendix 3 is a description of the tanning process. The product output of the tannery is normally under contract to a leather products manufacturer or with a finished leather broker or other marketing entity.

THE PHYSICAL PROCESS OF COLLECTING, PROCESSING AND MARKETING OF HIDES

USING SELECTED CASE EXAMPLES

As was discussed in the previous section there are a number of stages that a hide must transcend before becoming leather. Therefore, a description of the flow of hides from the packing plant to the tannery would be instructive. The movement of hides through these processing/marketing channels differs by the origin of the hide. Many of the initial steps in this flow concern preserving the hide to extend its storage life. These techniques are referred to as curing and are clearly different than the tanning process itself.

The physical capabilities of the packing plant, which are determined by annual kill, have a significant bearing on the flow of hides. Therefore this section uses several "case examples" to highlight the differences in cattle hide movement from the small packing plant to very high volume packing plants. Without regard to the marketing and processing entities that are involved in cattle hide flow, below are the necessary physical processing steps for cattle hides.

<u>OPERATION</u>	<u>TYPE OF CATTLE HIDE AS OUTPUT</u>
o Stripping off the Carcass	Green
o Washing	Green
o Salting	Wet Salted or Green Salted
o Washing	Wet Salted or Green Salted
o Trimming and Sorting	Trimmed and Sorted Wet Salted
o Brine Soaking	Brine Cured and Trimmed
o Fleshing	Brine Cured, Trimmed and Fleshed
o Grading	Brine Cured, Trimmed, Fleshed, Graded
o TO TANNERY	

SOURCE: "Leather Facts", New England Tanners Council

General trading, both domestic and international, is normally conducted in brine cured, trimmed, fleshed and graded hides.

Case Example 1: The Small, Less Than 10,000 Annual Kill, Packing Plant

The small packer that normally kills less than 10,000 cattle per year is extremely common in the Old West Region. Over 50% of the respondents to a survey conducted for this report were in this category. These operations typically employ less than 40 employees and slaughter cattle for local consumption. They may also custom butcher cattle for local producers and consumers. Of the respondents to the survey the average annual kill of these facilities was less than 1,500 cattle per year.

Typically the hide is stripped off the carcass and piled on the cutting room floor where blood and other containments become mingled with the hair. Better managed plants use greater care in handling their hides. The hide might then be picked up, salt deposited on the flesh side and folded. These hides would be stored, in a cool storage area preferably, and held for as long as several weeks until a sufficient volume was present to justify marketing the hides. A dealer or a rendering plant may have a contract with a packer of this scale to buy their hides or the packer may request several bids for the hides from dealers and rendering plants. After sale the buyer would commission a truck to pick up the hides. Relatively low volume from these facilities preclude sales of hides on a daily basis, perhaps even on a weekly or monthly schedule. Therefore it is critical that the small packer make arrangements for partially curing and properly storing their hides, due to relatively long storage periods, to prevent putrefication.

The dealer or rendering plant buys hides from a number of these small packers and delivers them to a central point. This may be to a processing plant under contract or buying the hides from the dealer. The dealer or rendering plant may

have their own processing facility where the hides will be brine cured, fleshed, trimmed and graded. Dealers and rendering plants have sufficient hide volume to continue the curing of the hides they buy. They also are aware of marketing conditions that effect hide value and price.

The dealer or rendering plant may sell their inventory to processors or if already processed may sell their hides to another broker or to a tannery. Major brokers, processors and tanneries have a very marginal interest in packing plants with low annual kill volume.

Case Example 2: The Medium Scale 10,000 to 100,000 Annual Kill Packing Plant

While the lower end of this spectrum display characteristics similar to smaller packers the firms in the upward ranges of this category differ significantly from Case Example 1. A 75,000 head annual kill is equivalent, on a 330 day operating year, to slaughtering over 225 cattle per day. Existence of hide volumes of this scale signifies that special arrangements should be made by the packer to insure optimum return for his byproduct hides. Just as offals are sold to specialized firms, entities specializing in hide processing also exist.

Although hides are stripped of the carcass in the same fashion as in the first example more care is normally taken by the packer to insure that the hide is kept out of containments such as blood, manure and other waste on the cutting room floor. From here the hides may be salted or if a processor is in the vicinity of the plant left green to be picked up later the same day. Packers of this scale are serviced every day by the processor if the hides are in the "green". The processor may have a supply or buying contract with the packer. He may also service several packers and buy their entire hide output.

The processor would then proceed with brine curing, trimming, fleshing and grading as previously mentioned. The processor may then attempt to market his inventory to tanneries, brokers or export brokers. The processor may be wholly owned by a parent company. In such a case the parent would probably possess the marketing capability and would act as broker to other brokers or tanneries.

Case Example 3: 100,000 to 300,000 Annual Kill Packing Plant

Although not the largest packing plants, firms with annual kill in this range often will either belong to a processing association or own their own processing facilities themselves. In some instances a cooperative processing plant may be a non-profit entity providing both processing and marketing capabilities. In some instances processors may contract for a hide supply from the facilities but more frequently the packers themselves will assume responsibility for having their hides processed and graded.

Using assembly line kill and slaughtering techniques these plants will produce up to 1,000 hides per day. The hides from these plants are normally of very high quality ranging between grades 1 and 2. The processor, if not in-plant, would pick up hides on a set schedule two or three times daily. The packer does not have to apply salt in that there is little storage time between stripping the hide off the carcass and processing. If the processing capability is in-plant the hides move directly and immediately from the kill area to the hide processing area. The hides would be washed, sorted and trimmed and placed immediately into raceways, held in suspension for two days, withdrawn, fleshed and graded. They would then be bundled by hide grade and type and stored until sold. These hides would be sold directly to brokers, export brokers or to tanneries.

Case Example 4: Packing Plants With Annual Kill Greater Than 300,000

Packing plants in this volume range normally possess their own processing ability located within the packing plant. They would have their own specialized marketing personnel and would operate the processing plant identically to Case Example 3 except that the processing facility might be larger than what was found in the former example. These packers would sell to brokers, export brokers and tanneries and may have sales offices located internationally.

PACKING PLANTS IN THE OLD WEST REGION

In a literature review conducted before the initiation of this project only one recent study was discovered which addressed the meat packing industry. It was evident from the outset that it would be necessary to collect primary source data from the industry itself. Due to both time and funding constraints it was decided to attempt data collection via a mailed survey with follow-up interviews to selected respondents.

An integral requirement of this process was to acquire a comprehensive inventory of packing plants in the Old West Region. Regional Commission staff and the Montana Department of Agriculture provided information concerning these firms. Most useful were the working notes of the 1978 Old West Regional Commission project "Meat Industry Survey", which yielded a listing of 78 meat processors in the five-state area. (See Appendix 4)

The first mailing occurred July 31, 1980. Nineteen responses were received within a two-week period following the mailing. A new cover letter was designed for a second mailing to firms not responding to the first survey. The second mailing was completed August 13, 1980 (See Appendix 5 concerning both mailings). The second mailing included a slightly more strongly worded cover letter than the first. An additional 20 responses were received to the second mailing for a total response of 35 firms or almost 45% of the identified meat processing universe. This is slightly better than what is normally considered as an average response rate to a mailed survey.

In addition to the mailed survey field interviews were conducted with packers in Nebraska, South Dakota and Montana between September 15 and 26, 1980.

The following firms participated in the survey:

1. American Stores Company, Nebraska
2. Black Hills Packing Company, South Dakota
3. High Country Beef Jerky, Montana
4. Midland Empire Packing Company, Montana
5. Spear Meat Company, Montana
6. Triangle Packing Company, Wyoming
7. Pierce Packing Company, Montana
8. Aneta Meats, Incorporated, North Dakota
9. Cascade Wholesale Meats, Montana
10. Cimpls Incorporated, South Dakota
11. Diamond Bar Meats, Montana
12. John R. Daily, Incorporated, Montana
13. O'Brien & Company, Nebraska
14. Quality Steak, Nebraska
15. Seitz-Bowers Processing, Montana
16. Swift and Company, Montana
17. Flannery Meats, South Dakota
18. Cloverdale Foods, North Dakota
19. Coast Packing Company of Omaha, Nebraska
20. Held Beef Industries, North Dakota
21. Iowa Beef Processors, Nebraska
22. Skylark Meats, Nebraska
23. Sol's Packing, South Dakota
24. Western Meats, South Dakota
25. George A. Hormel, Minnesota
26. Dakota Packing Company, North Dakota
27. Gallatin Valley Packing, Montana
28. Greater Omaha Packing Company, Nebraska
29. Hi-Line Packing Corporation, Montana
30. Madison Foods, Incorporated, Nebraska
31. Marias Packing Company, Montana
32. Montana State Prison Ranch, Montana
33. M&P Meat Company, Montana
34. Rahr Meat Service, Montana
35. Tolman Meat Processing, Montana

Respondents Having Hides to Market

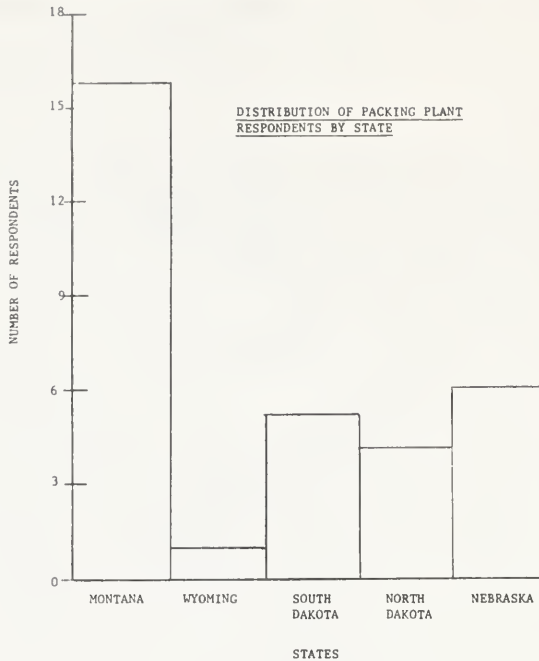
An identified weakness of the mailing list was that it identified all firms having meat to distribute to wholesale and retail markets. In that the determining factor for inclusion on the mailing list was availability of meat it listed some firms that were secondary processors of carcasses in addition to packing plants.

A number of the respondents did not kill cattle themselves and, therefore, did not routinely handle hides. Of the 35 respondents 13 indicated that they did not have a hide supply. Below are the firms responding to the survey that had a cattle hide supply:

1. American Stores Company, Nebraska
2. Black Hills Packing Company, South Dakota
3. Midland Empire Packing Company, Montana
4. Aneta Meats, Incorporated, North Dakota
5. Cimpls Incorporated, South Dakota
6. Seitz-Bowers Processing, Montana
7. Flannery Meats, South Dakota
8. Coast Packing Company of Omaha, Nebraska
9. Held Beef Industries, North Dakota
10. Iowa Beef Processors, Nebraska
11. Skylark Meats, Nebraska
12. Sol's Packing, South Dakota
13. Western Meats, South Dakota
14. Dakota Packing Company, North Dakota
15. Gallatin Valley Packing, Montana
16. Greater Omaha Packing Company, Nebraska
17. Hi-Line Packing Corporation, Montana
18. Madison Foods, Incorporated, Nebraska
19. Marias Packing Company, Montana
20. Montana Prison Ranch, Montana
21. Rahr Meat Service, Montana
22. Tolman Meat Processing, Montana

State Distribution of Respondents

Of all respondents to the "Hide Supply Survey" 16 of the 35 were received from Montana firms. This high response rate from Montana corporations was probably influenced to an extent by a letter of introduction accompanying the survey from the Director of the Montana Department of Agriculture and may have been also partially affected by the corporate name of the surveying entity (Montana Export Company). The fewest responses were received from Wyoming although Wyoming also has the fewest absolute number of packers in the five-state area. North and South Dakota and Nebraska responded evenly to the survey being within one or two responses of each other.

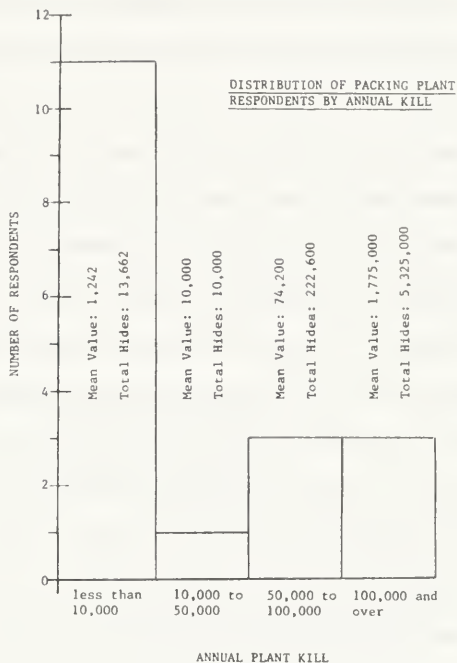


Distribution of Packers by Annual Kill Volume

Of 18 responding packers 95% represented less than 4.5% of the total hide supply inferred by packers responding to the survey. One respondent accounted for over 95% of the total hide supply. A majority of the responses were received from packers killing substantially less than 10,000 cattle per year. The mean value of kill in plants slaughtering less than 10,000 cattle per year was about 1,200. Six packers slaughter over 50,000 cattle per year with one packer in these categories slaughtering over 5,000,000 cattle per year.

The smaller packers responding to the survey would tend to bias the analysis of responses towards their characteristics, away from those of larger packers.

Therefore, throughout this analysis response has been categorically stratified into volume of kill that the percentage of response imply. However, in the interest of confidentiality certain responses to selected questions has not been stratified so as not to specifically identify individual packers.



Types of Hides Offered by Packers

A significant issue effecting cattle hide sales and marketing is the type of hide offered for sale by packers. As has been indicated previously is the stage of processing that has been applied to the green cattle hide. Green hides, hides stripped from a carcass spoil quickly (less than 24 hours) and require substantial processing to maintain their quality. Traditionally small packers apply salt to these hides as a partial cure which would preserve them for a few weeks. These salted, green hides are normally referred to as wet salted hides. Dehaired or

blue hides are hides that have been subjected to the initial tannery step of dehairing and partially curing. Blue hides can be stored for an indefinite period of time. Between the dehaired and wet salted types of hides, one that was not mentioned on the survey, tends to represent the majority of all hides sold from packing plants. These are brine cured, fleshed and trimmed hides which form the basis for hide trading at both the national and international levels.

Responses to the survey indicated that most smaller packers tend to sell green hides and a few wet salted hides. Ninety-nine thousand seven hundred and sixty-three hides were available among survey respondents in the green stage. Larger packers tend to at least wet salt their hides. Three hundred twenty-one thousand five hundred wet salted hides were available. Large packers normally have their own, wholly owned processing plant or belong to a cooperative processing association which allows them to brine cure, trim and flesh their hides and, in addition, allows them to grade their own hide supply. Although only 11.2% of the responses indicated that they offered brine cured, trimmed and fleshed hides these responses represented over 5.1 million hides. No other types of hides, blue or leather, were mentioned as being available through packers.

WHAT TYPES OF HIDES DO PACKING PLANTS SELL*

"There are several TYPES of hides. Please indicate...the types of hides that you normally sell and if you sell more than one type of hide what the percentage of these are of the total hides that you sell."

#Hides	Type	%	
99,763	Green:	44.5%	
321,500	Wet Salted:	44.5%	
	Dehaired:	-0-	
	Tanned:	-0-	
	Other:		
	Brine Cured & Fleshed:	11.2%	N=18
5,150,000			

*Totals may not add due to rounding

International Sales of Packers

A question was directed at packers regarding where they sell their hides. Of 18 responding firms 93.5% indicated that their hides were sold within domestic markets. Six point five percent indicated that they sold the majority of their hides internationally. Twenty-two percent indicated that they sold hides internationally occasionally. There was a near perfect correlation between availability of brine cured, trimmed and fleshed hides and packers occasionally selling internationally. There was also a near perfect correlation between packers killing above 100,000 head per year and international sales. All packers indicating that they sold hides internationally also offered brine cured trimmed and fleshed hides for sale.

WHERE DO PACKERS SELL THEIR HIDES

"There are a number of hide markets, both domestic and international. In which do you sell most of your hides?"

Domestic: 93.5%

International: 6.5%

N=18

HOW MANY PACKERS SELL ANY OF THEIR HIDES INTERNATIONALLY

How many plants sell hides directly to international markets?

22%

Buyers of Cattle Hides From Packers

Another survey item was directed at who purchases the packers hides. Seventy point six percent indicated that independent brokers purchase most of their hides. The responses to this question are again biased towards the small packer. Dealers do account for a large percentage of all buyers in the four states

excluding Nebraska in the Old West Region. This however is more clearly effected by the size of packers in this four-state region than it is a inharent nature of hide purchases in the region. Of the 29% who indicated that they sold hides to an intermediate processor they represented over 450,000 hides versus 105,000 hides represented by 70.6% of the respondents who sold to dealers. Through personal interviews in the field it is apparent that the vast majority of all hides in the Old West Region are either sold to dealers, processors or processed in-house and sold to export brokers for final disposition.

An interesting aspect of the responses to the question, however, is that no packer indicated that they sold hides to any other entity than processors, dealers or independent brokers. This is supported by our field investigations which indicate that packers limit themselves to processing to the brine cured, trimmed and fleshed stage and in no instance are responsible for tanning.

WHO DO PACKERS SELL THEIR HIDES TO

"Your company routinely sells hides. Do you normally:"			
Sell hides to a domestic, independent buyer	70.6%	105,063	
Sell hides to a foreign, independent buyer	-0-	-0-	
Sell hides to an intermediary processor	29.0%	466,200	
Sell hides to a domestic tannery	-0-	-0-	
Sell hides to a foreign tannery	-0-	-0-	
Sell hides or leather directly to end users	-0-	-0-	
Other	-0-	-0-	N=17

Use of Representatives and Commission Agents

In that the use of an intermediary marketing entity has been contemplated a question was designed to determine the frequency of this type of marketing effort currently existing in the industry. Responses to this question was again biased by the small packer. Small packers do not use representatives to sell their

hides. Insufficient volume to support such representation must be considered as a primary cause. Dealers in many respects fill this need, by buying hides from a variety of sources in order to own sufficient hide volume to participate in much larger markets. Even firms in the 100,000 hides per year category may or may not use representatives. However large packers do use both representatives and commission agents to sell hides. Mixed in with these are export brokers who also represent larger packers. All firms indicating that they use representatives used representatives for international sales.

DO PACKERS USE SALES REPRESENTATIVES

"Do you ever use a commission agent or other representative to sell your hides...?"

	<u>%</u>	<u># Hides</u>	
Yes:	11.1%	5,150,000	
No:	88.9%	421,263	N=18

Selling Price of Hides Sold by Packers

Hide prices offered to packers are generally set through two methods. The first of these is through a buying formula that uses one of three or four cattle hide trading publications. These market reports are generally published on a weekly or even a daily basis which reflects the prices paid for hides the week or day before. Normally this formula reflects the stage of processing that the hide has gone through, the type of hide, the grade of hide and perhaps even the season of the year as hide weight fluctuates according to the type of climate cattle are exposed to. Thirty-five percent of the respondents indicated that the price paid to them was set using this method.

Another method for determining price paid for hides with smaller operators is through competitive bidding for the hide supply. Using this method a packer

indicates that they have a supply of hides and requests that several dealers submit bids. The packer then has the choice of selecting the high bidder or even to refuse all bids.

The last sales technique is not a method at all but rather the dealer offers a price and the packer can either accept it or reject it. This accounts for almost 50% of the responses to the question. Most responses indicating this practice are derived from small packers.

DO PACKERS INFLUENCE THE PRICE PAID TO THEM
FOR THEIR HIDES

"Do you set the asking price for your hides?"

<u>YOU SET IT</u>	<u>OTHERS</u>	
-0-	100%	N=18

"If OTHER people set the market price who establishes it?"

Based upon market report or some other pricing sheet:	35.4%
Buyer sets price:	47.2%
Competitive Bidding:	17.7%

Packers View of Hide Price Fluctuations

In that most packers indicated that they had only marginal control over the price paid to them for their cattle hides, and this was suspected from the outset of this investigation, a question on the questionnaire asked packers who they believed most directly effects the market price for hides. A study which we have used extensively completing this report produced by the U.S. Department of Agriculture indicates the following in regard to price fluctuations:

Since the supply of hides is predetermined, price theory implies hide prices should depend on current supply (cattle and calf slaughter), the price of competing substitutes (polyvinylchloride) and product demand... Statistical estimation of the hide (supply-demand) relationship showed no significant effect of either polyvinylchloride prices or the aggregate supply of hides on hide prices.

The report continues that the interrelationship between factors makes determining the function of any one factor very difficult. The investigators could not determine the driving forces behind price fluctuations.

The packers, however, firmly believe that end user demand kept hide prices fluctuating.

WHO PACKERS BELIEVE SET HIDE PRICE*

"Who do you believe most directly effects the market price for hides?"

Packing Plants:	-0-	
Independent Buyers:	22.2%	
Tanneries:	11.1%	
End Users:	50.4%	
Others:		
Government (Export Policy)	11.1%	
Foreign Trade (Supply-Demand)	5.5%	N=18

* Totals may not add due to rounding

Although a majority of respondents indicated that end user demand effects cattle hide price the U.S.D.A. report summarizes the nature of demand for hides.

Hides are a unique commodity with respect to their supply determination. As a byproduct of cattle and calf slaughter, neither current or past hide prices affect current or forthcoming hide supplies. Thus the industry is dealing with an almost perfectly inelastic supply of hides. It is also believed that the demand for hides is very inelastic, a large change in price causes a very small change in the quantity of hides demanded.

U.S.D.A. believes that if either cattle hide supply or cattle hide demand affect hide price cattle hide supply affects hide price more significantly than end user demand for finished leather. This is supported, at least in theory, by the very small percentage that leather price accounts for in the total finished cost of most leather products. Plant investment, labor and other operating costs

affect final leather product cost more dramatically than increases or decreases in leather price.

Although there are no right and wrong answers to this question 22.2% of the packers responding to the survey indicated that they believed independent dealers set the price paid for hides. Independent dealers do in fact set the price paid to packers who sell their hides to dealers. The dealers use aids such as the "Jacobson sheet" to determine hide price in addition to "their own judgment" concerning market conditions. The movement of several large export brokers often is used to determine what smaller dealers will do with their hides.

How Are Packers Paid For Their Hides?

Twenty packers responded to this questionnaire item with the majority indicating that they were paid in cash. Thirty-five percent indicated that they used an open accounting system with payment periods ranging between 3 to 30 days from physically acquiring the hides. One of the packers who sells internationally indicated that they were routinely paid through letters of credit. In general payment practices to packers for packer hides are fairly conservative.

HOW ARE PACKERS PAID FOR THEIR HIDES

Please indicate how you are paid for your hides.

Open Account: 35%
Cash in Advance: 5%
Cash: 55%
Other:

Letter of Credit: 5%

N=20

UNITED STATES CATTLE HIDE EXPORT BROKERS

Besides packing plants, processors and tanneries a major participating group in hide marketing is the cattle hide broker. They are referred to in other literature as dealers, wholesalers, traders but for convenience the term broker, using its' industry definition, is used throughout this report. A broker is a firm or individual that buys hides for his own account and sells inventory to other domestic and foreign brokers and tanneries. Rarely do these firms buy hides for their own account with intentions of producing leather, although this does occur. Often these firms will buy hides directly from large packing plants that have their own processing capacity. At times these brokers will forward contract for a hide supply from these packing plants. They also buy hides from a number of dealers and processors. This group of firms represents the highest volume component in the hide marketing system. Several firms sell over 6,000,000 hides annually. In 1979 the U.S. produced about 35,000,000 hides.

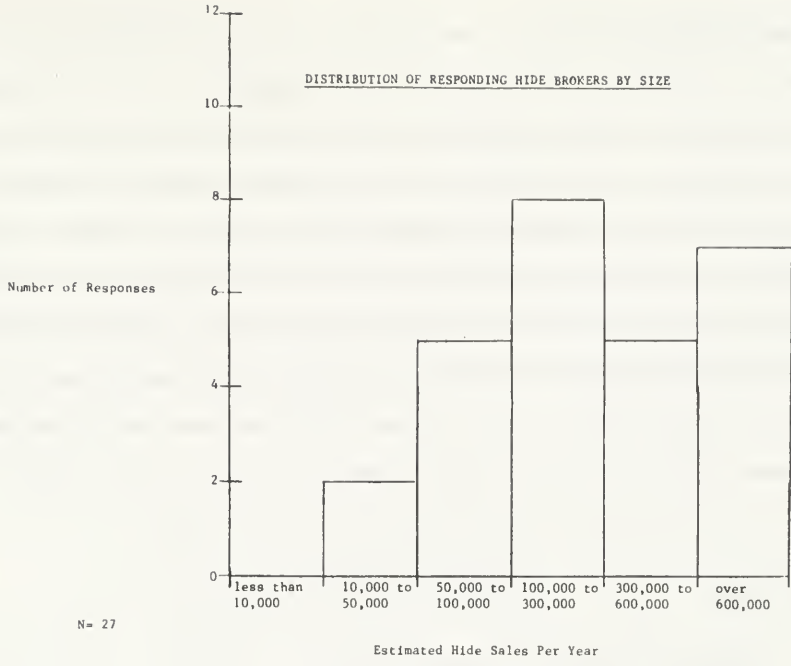
Again, similar to information concerning packing plants, very little published data exists concerning this sector of the industry. Due to this data weakness an additional questionnaire was produced to be answered directly by these cattle hide brokers. The questionnaire is attached as Appendix 6. Initially we believed that it would be difficult to identify export brokers, but due to a reporting requirement implemented in the spring of 1980 by U.S.D.A. we were successful in securing a list of 85 companies engaged in this business. A surprising aspect of the list itself was that 85 firms were identified as export brokers. In late 1979 U.S.D.A. estimated that there were only about 55 of these firms in the country. The difference between these two figures is about 54%. Attached as Appendix 7 is the export brokers mailing list.

Only one mailing was produced for the brokers. Thirty firms responded with completed questionnaires for a response rate of approximately 35%. Although these companies did not have to cooperate their candor and responsiveness must be noted here.

Distribution of Respondents by Size

Of 27 export brokers responding to this survey item 26% fell into a sales volume above 600,000 hides per year. In constructing the questionnaire the highest volume category was 600,000 hides and over. A weakness, therefore, of the questionnaire itself was not carrying volume ranges out to a higher upward limit. Through literature review, after the survey had been distributed, it was determined that the largest brokers sold up to 6,000,000 hides per year. Seventy-four percent of the responses, however, did fall within defined parameters as described on the questionnaire.

The majority of responses fell into categories above 100,000 hides per year although two responding brokers sold as few as 10,000 to 50,000 hides per year. This generally confirms the thought, articulated by many packers and dealers interviewed in this project, that most brokers buy and sell several hundred thousand hides annually and that brokers or dealers offering fewer hides for sale are relatively uncommon. The mean value of all responses, taking the middle value of the selected range, is over 300,000 hides annually and this is a low estimation in that firms indicating that they sold over 600,000 hides per year. The average annual sales volume for brokers then is substantially greater than 300,000 hides.



Distribution of Brokers by State

Although 17% of the national cattle hide supply is derived from packing plants within the Old West Region only one broker is located in the five state area.

Of the 85 U.S. brokers identified in this project 43% are located in New York and California. New York itself accounts for 22% of these with California following closely with 21% of all U.S. export brokers. The remainder of these firms are distributed throughout the mid-west and north central states. Texas accounts for almost 10% of these firms.

Export Brokers and Exporting

Not surprisingly all brokers responding to the survey export some portion of their hide inventory. Brokers occupy the intermediate position between the packing plants and processors selling domestically and foreign brokers and tanners which are the primary consumers of U.S. cattle hides. Packers responding to the survey indicated that 93% of them sell domestically. Almost 90% of all export brokers responding to the survey indicate that they sell between 50 and 100% of their hides abroad. The mean value of this response indicated that approximately 75% of the typical export broker's hides are sold to export markets.

Broker's Exports

How many of the firms surveyed export?	100%
"What percentage of your total supply do you believe you export?"	100%: 42.8%
	50-99%: 47.6%
	1-49%: 9.5%

What Export Brokers Buy and Sell

A question was designed to characterize the principle business activities of responding export brokers. This was a multi-set question which involved buying, selling, processing, representing various producing entities and what hide and leather sectors export brokers sell to. Response to the buying and selling sets of questions were directed at identifying which types of hides had the greatest sales potential as implied by the frequency of trading in individual hide types. A simple correlation between frequency of sale by the export broker of a specific

hide type and packing plants producing these types of hides should indicate a packing plant that owns hides with export potential. A weakness of the survey was not defining brine cured, trimmed, fleshed and graded hides clearly enough. The closest response on the survey to this category was wet salted hides. Fifty-nine point five percent of the sales responses were associated with this category. Twelve percent of the respondents wrote in brine cured hides on the survey. Total response to the selling question was 50. Only 28% of the responses were in categories other than wet salted and the volunteered "brine cured" response.

Export Brokers Buying and Selling Characteristics

	<u>Green Hides</u>	<u>Wet Salted</u>	<u>Dehaired</u>	<u>Blue</u>	<u>Tanned</u>	<u>Brine Cured</u>
Do you buy? ¹	26%	50%	2%	12%	4%	6%
Do you Sell? ²	4.8%	59.5%	2.4%	16.6%	4.7%	12%

¹N=50

²N=42

Do Export Brokers Represent Others

A question included in the business characteristics set of questions addressed brokers acting as representatives. It was known that brokers normally own their own hide inventory but it was also suspected that brokers were occasionally requested to act as a sales agent for packers and processors and perhaps tanneries. We did not know what the frequency of this was within the industry. Of all respondents to the survey 57% indicated that they represent the hides of other owners as a portion of their normal operation. The majority of these

responses indicated that they represented packing plants. Thirty-one percent indicated that they represented processors and almost 19% acted as representatives for tanneries.

Do Export Brokers Use Representatives

As packers indicated that they did not normally use representatives as has been discussed previously frequency of brokers use of representatives is somewhat higher. Fifty-seven percent of all responding brokers use representatives. Of these brokers fully 100% use representatives to service overseas accounts. Apparently the majority of export brokers see an advantage in using representatives in geographically distant markets. It may also be that they appoint representatives that are known to tannery markets abroad.

Do Brokers Use Promotional Materials to Sell Hides?

The hide industry has existed for many years. Families have passed this "trade" down from father to son. In this rather small universe individuals have developed a keen understanding of the products and capabilities of other involved firms. In this type of environment very little promotional information is used. Respondents to a survey question addressing this topic indicated that just over one quarter of them advertise to any extent. Of those 60% considered a listing in the association directory as advertising. One respondent indicated that they distributed an annual calendar and one other indicated that they had an advertisement in an international leather periodical. Advertising does not seem to play a critical role in promotion of hides from export brokers.

When Brokers Quote Hide Sales Terms do They use F.O.B. or CIF

An operational aspect of hide selling overseas is whether hide suppliers offer to include transportation and other costs into their quotes. A question was designed which asked if brokers sold hides CIF or used more conservative arrangements. The majority of brokers (62.8%) offer their hides CIF to foreign buyers. Seventeen point two percent indicated that they retained their responsibility to the export dock. Twenty percent indicated that they sold F.O.B. their warehouse.

What Payment Terms do Brokers Offer When They Sell Internationally?

A critical element of some international financial transactions is the type of payment terms requested by the seller. Some trade requires both short and long term payment patterns. Some industries use the EXIM Bank to finance substantial purchases of merchandise. Cattle hide brokers seem somewhat more conservative about payment. A standard confirmed, irrevocable letter of credit is used by fully three quarters of all respondents. Open account method, with various terms, was used 21% of the time. A bill of collection was used by 4% of the surveyed group.

Is The International Price Different Than Domestic Price?

Pricing of cattle hides is discussed in other sections of this report, however, it should be mentioned here that a survey question was designed to determine what traders felt about any price difference. Fifty-six percent of those responding to the question felt that international price was different than

domestic price for the same hide. Of these respondents 93% felt that the international price was neither consistently higher or consistently lower than the domestic price. Rather the relationship tended to fluctuate.

Do Brokers Contract in Advance for a Hide Supply?

A question that seemed very relevant to considering cattle hide marketing was whether brokers expended efforts to forward contract a cattle hide supply. A majority of the brokers indicated that they do indeed forward contract at least a portion of their hide supply.

In times of short supply, therefore, these traders are guaranteed of at least a partial supply of hides. Although a majority indicated that they do indeed forward contract 80% receive only between 1 and 49% of their total hide supply. No trader forward contracts 100% of their supply and only 20% acquire above 50% of their supply using this technique.

CATTLE HIDE QUALITY

A significant consideration in determining a hide offering or selling price is the relative quality of the hide. Quality is a function of several factors. One aspect of quality, in industry jargon, is the hide's "selection". The hide's selection is determined in the packing plant. The second determining variable is the hide's "grade". This can only be determined after the hide has been processed. These two considerations are discussed in detail below.

Selection

Hide selection is determined by the cattles sex, branding and weight (See Table 4 below). As regards beneficial characteristics in the hides selection a steer hide generally has higher value than a bull, cow or calf hide. A hide free of brands has higher value than a hide with one or more brands. A hide branded on the butt is preferred over a hide with a brand located forward of the break in the flank. A heavy hide (over 51 pounds) has higher value than a light hide (less than 51 pounds). A heavy, native steer hide commands the highest price from the packing plant.

TABLE 4

<u>Selection</u>	<u>Description</u>	<u>Weight</u>
HEAVY NATIVE STEER	A steer hide free of brands	51 pounds and up
LIGHT NATIVE STEER	A steer hide free of brands	50.9 pounds and down
HEAVY NATIVE COW	A cow hide which is free of brands	47 pounds and up
LIGHT NATIVE COW	A cow hide free of brands	46.9 pounds and down
HEAVY BRANDED COW	A cow hide contain. 1 or more brand	47 pounds and up
LIGHT BRANDED COW	A cow hide contain. 1 or more brand	46.9 pounds and down
BUTT BRANDED STEERS	A steer hide branded on either and/or both butt areas	51.0 pounds and up
COLORADO BRANDED STEERS	A steer hide branded on either and/or both sides	51.0 pounds and up
LIGHT BRANDED STEER	A steer hide containing one or more brands	50.9 pounds and down

Hide Grade

Hide grades are determined after the hide has been processed into a brine cured, fleshed and trimmed condition. Grades range from #1, #2, #3 and render hides in order of preference. Determining characteristics of a hide's grade include the type and quality of the hides cure, the hides pattern, the size, frequency and depth of rips, tears, holes, blemishes, scores, gouges, grain breaks and warts are considered. Below are definitions of the different grades as considered by industry graders (See pattern below).

#1 Hide: It is the premium hide grade. It is a correct pattern and has been well cured. It is free of holes or cuts, slips, warts and broken grain (over 1 inch long), deep scores or gouges. EXCEPTION: The rear shanks can contain one hole or cut below hock that measures less than 1 inch in length.

#2 Hide: Any hide that is off pattern, containing a hole or cut, deep score or gouge (located above a straight line drawn through the break in the hair of the fore and hind flanks), a grain break (over 1 inch), and warts (area no larger than 18 inches).

#3 Hide: Any hide that contains hair slips, five holes and/or deep scores and gouges, one hole or cut 6 inches, warts over 18 inches, or any defect covering one third or more in area.

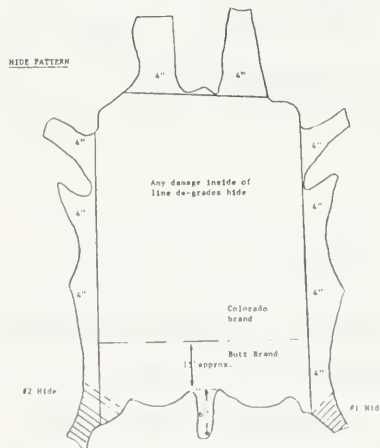
Render Hides: A hide damaged to the point that less than half of the hide cannot be salvaged.

Off Pattern Hide: If a hide is trimmed so as not to show any indication of a leg, it becomes an off pattern hide.

Grain Break: Any hide having a defect on the hair side causing the grain to be broken 1 inch or more in length or diameter, or having two or more defective spots which collectively measure one inch or more in diameter or length.

Scores & Gouges: Knife or flesher marks in hides. Depth greater than half way through the hide.

Holes: A hole within a brand is permitted. If a hole exceeds the hide's brand or is located in another area it is considered as a damaged hide.



Cattle Hide Areas

Characteristics of cattle hides vary by geographic area of origin. Hide thickness, branding techniques, frequency of barbed wire cuts, warts and other features are associated with the general area where cattle are produced. Buyers refer to a stratified map of the U.S. which divides the country into eight distinct hide regions (See Map below). Region 5, the River market, forms the basis for price quotations in the major hide markets. Hides from this area tend to be of higher quality than hides derived from other areas in the U.S.



CATTLE HIDE PRICING

Cattle hides, a commodity, have an established value which is, in theory, a function of the volume of cattle hide slaughter or supply and the intensity of tannery, end user interest or demand. There is little data available that supports this or any other assertion concerning hide price fluctuations. Neither the packing industry of U.S.D.A. have been able to completely account for the driving mechanisms behind the dynamics of international or national cattle hide pricing.

In practice published market reports are used by all brokers, processors and tanneries as well as packers as a partial component to a more complex pricing formula. Two of these market reports are attached as Appendix 8 and 9. Both of these sheets as well as a few other similar national commodity sales summaries are used extensively within the trade. They report prices paid to both major and small, country packers for hides. In addition to reporting previous weeks sales and offerings the reports discuss estimated livestock slaughter and compares this with both the previous week and previous years estimates.

In addition to the market reports the movement of several large brokers and the ripple effect that this creates with smaller brokers and dealers is considered to be responsible for hide price fluctuations. Position taking by these large brokers is considered to be an indication of market strength or weakness which influences the interest of other brokers and processors in themselves assuming a position. If brokers are not positive about the longer term nature of the market they will generally offer much less for a group of hides than what may have been reported in the previous week. The existence of such latent psychological attitudes effecting cattle hide pricing and perhaps overreactions that

can occur to major broker activity by brokers and processors complicates assessment of supply and demand explanation of hide price volatility.

The Survey

As was mentioned in foregoing sections of this report, packers generally believe that end user or consumer demand influences hide price. Fully 50% of all packers believed that end user demand was responsible for hide price fluctuation. Only 22% believed that independent buyers most directly effects hide price. Although is is difficult to assess the relative impact of hide demand upon hide price it has been advanced that hide demand is relatively constant and nonfluctuating.

Examination of responses from the four responding packers with annual kill volume above 100,000 head is interesting in the way it deviates from the responses of all packers to this survey item.

"...who do you think most directly effects the market price for hides?

Packing Plants: -0-
Independent Buyers: 50%
Tanneries: 17%
End Users: 33%

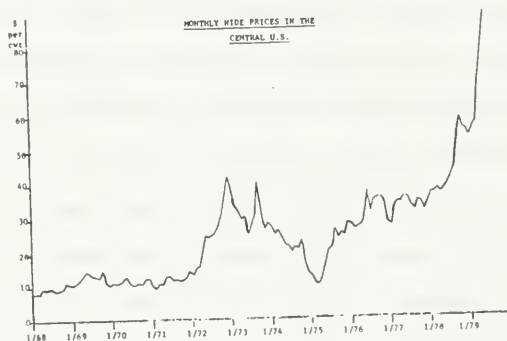
Although with so few respondents to the question the results have very little statistical significance, the deviation in response between all packers and a few major packers is interesting.

The United States Department of Agriculture

The U.S.D.A. attempted to analyze hide price fluctuation through econometric modeling. Although they were not able to totally explain the supply/demand/pricing

equation they were successful in determining a few factors that influence hide price. They found that a 1% increase (decrease) in the index of producer prices increases (decreases) cattle hide price by 2.4%. U.S.D.A. also found that hide prices would decrease (increase) 3% for each 1% increase (decrease) in cattle slaughter. Also hide prices would increase (decrease) 1.4% for each 1% increase (decrease) in cattle hide exports. The last two factors, however, account for only 40% of the hide price fluctuation from 1969 to 1979. Graph 4 indicates monthly hide prices in the U.S. from January 1968 to June 1979.

GRAPH 4



Although on an international and national level it is not known how hide prices are determined, except perhaps within the highest volume participants in the hide industry, common business practices are known as they relate to hide buy and sell transactions.

Small Packer-Dealer-Processor Transactions

Small packers, as all principles in the trade, have the opportunity to accept the best offer advanced to them by dealers, rendering plants or brokers or not

sell their hides. Prices offered to small packers tend to be substantially less than the prices offered to major packers. This difference in price varies but it would be accurate to say that the price is between 20 and 50% less than major packer offerings. Through interviews it appears that inferior hide quality, the heterogeneous nature of the supply, increased collection and handling costs, processing costs and the need for dealers to build in a profit margin results in lower offering prices.

The dealer bases his price upon an assessment of current market price, determined through published reports, estimated movement of cattle slaughter and his confidence in the stability and direction of resale markets. It is quite likely that their view of future market conditions dramatically affects the prices offered to the small packer. The dealer could also take into account his competitors (other dealers) relative positions in determining his offering price. If the dealer is bullish about market conditions he would not only attempt to offer a price higher than reported market but may also attempt to increase price offerings so as to out bid other competitors. The converse of this is also suspected. If he is cautious about taking a position he may offer a price substantially below reported market and not be overly concerned about being out bid by a competitor.

It would be safe to assume, however, that the asking price and offering price for a dealer's hides is substantially higher than what the dealer purchased the hides for. This can be moderated however by market changes between the date of acquisition and date of sale. If the dealer has correctly assessed the market and market prices increase a very healthy profit may be realized. Conversely it is possible for a dealer to lose money on a transaction when he has incorrectly assessed market conditions.

It is also possible that a dealer may have a selling arrangement with either processors or brokers. Such supply contracts are normally based upon a formula that is directly related to the market price on the day of sale. Correct assessment of market conditions is highly critical in that even with this arrangement selling price is determined by market formulas. It is very possible that a dealer could lose substantially by not correctly estimating market changes in the future.

Major Packers/Processors/Brokers

Within the higher volume component of the industry formula pricing is the primary method of determining both asking and offering prices. Major packers possess much greater negotiating strength in that they offer a very large number of high quality hides to the market at one point in time. Often the packer will determine asking price using a standard industry formula and the broker determines offering price using a formula and his belief in the strength of the market. At other times one formula may be used by both broker and packer in which case a supply contract may be negotiated. A hide pricing formula is based upon the published market price paid for a similar type and grade of hide in the previous week plus or minus a percentage negotiated between the seller and the buyer. This percentage may reflect transportation costs, processing, volume of hides, season or other factors. If a broker has a buyer with consistent hide demands or several buyers with consistent hide demand regarding quality and type it may be beneficial to both packer and broker to enter into a supply contract based upon one pricing formula. Major packers, processors and brokers normally use formula pricing for both immediate spot sales and in forward contracting for hide supply. In many instances formula pricing is at the reported market price or could be slightly above or below reported market price.

Broker and Processor Sales to Tanneries

Although little is known about the relationship of the broker or processor to the tannery it is suspected, and discussed at some length in personal interviews, that broker or processor asking price to tanneries is also based upon formula pricing. Such a price by the broker would include the costs of acquiring his hide inventory and a brokerage commission ideally. However, fluctuating market conditions may either increase or decrease a broker or processors margin. Brine cured hides, however, can be stored so that it may be possible for the broker or processor to hold hides off the market for some time, thereby reducing their exposure to a low hide market.

At the outset of this investigation the Old West Regional Commission was interested in determining whether there was any method available to it to increase the profitability of selling hides from the Region. Several alternatives have been identified that may result in the realization of this objective. It does appear however that, across the board, there are few areas of inefficiency, duplication of function or massive profit taking in any one component of the hide processing and marketing industry.

There is little question that broker speculation in cured hides results in very high profit margins to the broker that has correctly assessed market conditions. Hides once brine cured are a commodity that are bought and sold on a variably priced market. To participate, however, in this aspect of the trade requires a specialized knowledge of the industry, operating capital, storage facilities and perhaps an involvement in hide processing. Packers may be interested, however initial indications are that they believe that the hide industry is fundamentally different than the meat industry in which they are involved. An answer from a relatively large packer to a survey question accurately summarizes this belief.

...the hide business is an entirely different business from the packing industry--we can be related but the fact that 95% of our hides are sold overseas doesn't afford us the time to handle it ourselves. I'm sure there are ways to increase our profit but what they are I don't know. We'd be pursuing it ourselves if we did.

The Hide Supply Survey

A question was included in the supply survey which rearticulated options given by the Old West Regional Commission staff. Packers were asked which one of the

alternatives they believed could help them realize higher profits or generally assist them. The alternatives they were given are listed below:

- a. Assist packing plants with marketing programs to directly sell their hides in foreign markets,
- b. Assist packing plants to associate together so that they may market their hides directly,
- c. Initiate investigations into other marketing alternatives that could benefit the packing industry.

Asked whether the Old West Regional Commission could be of assistance 75% positively responded. Many of the positive respondents were small packers which have only very marginal control over prices offered to them for their hides. Negative responses tended to come from large packers who either have their own processing capability or packers that possess a long standing positive relationship with brokers or processors. Several large packers however did indicate that they believed the Old West Regional Commission might be able to assist them.

Twenty-one percent of the responses felt that item a. could help them. Thirty-one percent believed that b., assisting packing plants to associate together would be useful. Almost half of the positive responses felt that the Old West Regional Commission should investigate other methods to assist them.

Small Packers

Although almost all small packers expressed an interest in investigating alternative marketing techniques and desire Old West Regional Commission assistance this would be the most difficult and marginal approach to involvement in the hide industry. The principal difficulties experienced in becoming involved with the small packer are as follows:

- o Inconsistent hide types and grades
- o Inconsistent hide availability (scheduling of slaughter)
- o Low hide quality (cows and culls, barbed wire cuts, multi-branded)
- o Need for physical warehousing space
- o Need for hauling vehicles
- o Need for experienced marketing/operator
- o Operating capital for hide processing, hide purchase, etc.

Several private dealers currently service small packer accounts in the Old West Region. Competition between these local and regional dealers for a hide supply seemingly functions to maintain a reasonable hide price to the small packer. A 10-30% discount from the dealer to the packer off published national purchase price does not seem unreasonable due to the added costs of collection, processing and marketing of relatively low volume trade. If competition did not exist, adding a competitive force might be constructive and serve to increase the price paid to small packers. To seek to displace these firms, with another similar entity, does not seem to be warranted at the present time.

Assisting Larger Packers With Foreign Marketing

It does, however, seem reasonable that the Old West Regional Commission may be able to assist several of the larger packers with foreign marketing assistance. The firms, identified through the surveying process, possess both a processing and marketing capability and have experience selling directly to broker and tannery accounts. These firms themselves own brine cured, trimmed, fleshed and graded hides and would be capable of responding directly to foreign inquiries. A packer or several packers may be placed on a distribution list for foreign

inquiries concerning cattle hides. Old West Regional Commission staff should discuss these potentials directly with the packing plants that could potentially participate in the program.

A Cooperative Processing Plant

Another result of the survey process and later personal interview was identifying four packers in the Old West Region that are interested in assistance and have an annual, combined kill capacity of 500,000 head. These plants are located in four of the five Old West states. Other packers are located in these same areas but did not respond to the survey. If facilities slaughtering 500,000 cattle per year were located in one local area economies of scale would indicate that a hide processing plant would be feasible. Although it is not known whether a cooperative processing plant is feasible due to the distribution of these plants it may be a consideration. This would function to increase the supply of brine cured hides owned by packers which could be marketed directly through an associated, cooperative sales entity.

It is also possible that foreign joint venture interests could be identified that would participate in the project in return for an assured hide supply. This would reduce development costs to the packers and reduce marketing costs once operating. Although exhaustive research has not been conducted concerning any aspect of such a proposal, in theory, it may have merit.

International Leather Education Program

Through the personal interviewing process with packers it became evident that there was interest in developing a consumer education program to promote the

merits of leather vis-a-vis synthetic leather substitutes. This has been discussed at the Federal level and has found supporters within the hide industry. In that the Old West Region accounts for about 17% of all U.S. cattle hides and derives economic benefit from these operations it may be desirable to participate in such a program. If a national effort is implemented the Old West Regional Commission and/or individual states within the Old West Region should consider cooperation and perhaps funding for the effort.

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APPENDIX 1

BOVINE HIDES AND SKINS: PRODUCTION FOR SELECTED COUNTRIES,
1970 TO DATE

(000 METRIC TONS)

COUNTRY	1970 TO DATE									
	1970	1971	1972	1973	1974	1975	1976	1977	1978	
United States	297	1,012	1,016	973	1,061	1,199	1,222	1,209	1,170	
Canada	94	89	99	88	94	106	116	122	120	
Argentina	291	222	231	230	212	285	297	317	338	
Brazil	315	309	336	355	340	336	346	354	368	
Chile	66	72	67	60	60	67	72	73	76	
Denmark	45	36	32	32	33	43	52	45	45	
France	30	32	31	33	33	38	38	45	48	
Germany	19	16	12	13	19	25	23	19	20	
Italy	16	16	11	11	11	11	14	11	11	
Japan	15	16	15	13	14	15	18	15	14	
Netherlands	93	93	89	86	112	127	125	127	127	
New Zealand	34	24	21	22	27	27	27	27	25	
Belgium/Luxembourg	25	26	24	20	28	28	27	27	25	
Sweden	116	149	136	131	146	163	174	162	165	
Switzerland	130	131	114	114	130	127	133	129	134	
Germany, Federal Rep. of	43	42	43	45	46	47	48	49	48	
Austria, Democratic Rep. of	22	22	22	22	27	27	26	26	25	
Czechoslovakia	14	14	12	13	33	34	36	33	32	
Hungary	12	12	11	11	13	14	16	16	16	
Soviet Union	65	53	48	49	43	43	43	43	43	
Poland	68	69	66	64	68	69	72	73	74	
Yugoslavia	11	7	8	9	9	10	7	7	7	
Spain	11	11	10	9	10	10	10	10	10	
Portugal	106	105	102	99	101	91	94	94	95	
France	33	35	31	35	37	41	41	42	40	
Greece	12	11	12	12	14	17	15	15	11	
Romania	28	27	28	29	28	30	31	32	33	
Turkey	48	44	39	44	54	57	57	57	57	
South Korea	6	5	5	7	10	10	9	7	7	
Taiwan	2	1	1	2	2	2	2	2	2	
Japan	32	33	34	25	31	37	39	39	40	
Australia	102	109	125	124	122	147	163	205	20	
New Zealand	40	49	52	54	52	57	57	57	57	
South Africa	63	76	75	65	59	67	59	60	60	
Other Countries (14)	117	137	133	132	110	138	134	138	110	
Total Spent	3,888	3,886	3,831	3,803	4,101	4,418	4,485	4,525	4,508	

- 1/ Estimated from cattle and calf slaughter.
- 2/ Includes an estimate for death losses.
- 3/ Excludes Alaska and Hawaii prior to 1973.
- 4/ Includes Bulgaria.

SOURCE: Prepared or estimated on the basis of official statistics of foreign governments; other foreign source materials; reports of U.S. Agricultural Attaches and foreign service officers; results of office research and related information.

April 1979

Dairy, Livestock and Poultry Div.
Commodity Programs, FAS, USDA

APPENDIX 2

BOVINE HIDES AND SKINS: EXPORTS FOR SELECTED COUNTRIES,
1970 TO DATE

(000 METRIC TONS)

COUNTRY	1970	1971	1972	1973	1974	1975	Estimated	1976	Estimated	1977	Estimated	1978
United States 2/.....	427	457	500	482	529	604	Estimated	708	Estimated	683	Estimated	701
Canada 2/.....	54	51	61	59	57	84	85	85	94	94	95	95
Argentina.....	189	21	68	43	36	26	58	58	61	61	68	68
Brazil.....	37	23	23	3	7	1	-	-	-	-	-	-
Colombia.....	2/	2/	2/	2/	2/	2/	2/	2/	2/	2/	2/	2/
Uruguay.....	16	1	1	1	1	1	1	1	1	1	1	1
Sweden.....	5	3	4	4	4	16	16	15	16	16	16	16
Norway.....	17	10	17	19	17	17	17	15	16	16	16	16
Denmark.....	11	14	17	19	4	4	4	4	4	4	4	4
Ireland.....	11	14	17	14	23	23	23	24	24	25	25	25
Netherlands.....	55	27	57	40	44	71	71	72	71	68	68	70
Belgium/Luxembourg.....	22	27	30	26	32	34	36	36	36	35	35	35
France.....	79	107	92	79	79	123	129	129	131	131	132	132
Germany, Federal Rep. of.....	4	73	65	68	75	9	8	8	8	8	8	8
Austria.....	4	7	9	8	175	175	175	175	175	175	175	175
Switzerland.....	13	15	14	14	17	17	17	17	17	17	17	17
Spain.....	11	6	1	1	1	1	1	1	1	1	1	1
Soviet Union 2/.....	12	5	2	2	8	8	8	6	6	6	6	6
Taiwan.....	72	81	117	116	120	166	178	178	186	186	183	183
Malaysia.....	12	33	35	33	43	45	40	40	40	40	41	41
New Zealand.....	41	51	43	43	30	41	41	41	41	41	41	41
South Africa.....	41	39	45	38	57	77	68	68	68	68	68	68
Other countries (28).....	36	39	45	38	57	77	68	68	68	68	68	68
Total Selected Countries (51).....	1,211	1,175	1,228	1,134	1,250	1,473	Estimated	1,594	Estimated	1,560	Estimated	1,584

2/ Includes cattle hides, calf and kip skins and buffalo hides.

2/ Trade in pieces converted to metric tons.

2/ Less than 500 metric tons.
Year beginning July 1.

SOURCE: Prepared or estimated on the basis of official statistics of foreign governments, other foreign source materials, reports of U.S. Agricultural Attaches and foreign service officers, results of office research and related information.

April 1979

Dairy, Livestock & Poultry Div.,
Commodity Programs, FAS, USDA

APPENDIX 2.a.

BOVINE HIDES AND SKINS: IMPORTS FOR SELECTED COUNTRIES,^{1/}
1970 TO DATE

COUNTRY	(000 METRIC TONS)										1977		1978	
	1970	1971	1972	1973	1974	1975	1976	Estimated	Estimated	Estimated	Estimated	Estimated	Estimated	
United States 2/..	12	9	10	21	15	26	25	23	23	23	23	23	23	
Canada 2/.....	29	31	29	25	28	32	34	28	28	28	35	35	35	
Brazil.....	1	1	1	2	3	3	1	3	3	3	3	3	3	
Chile.....	7	14	16	19	29	19	22	19	19	19	18	18	18	
Sweden.....	12	14	16	19	29	19	22	19	19	19	18	18	18	
Belgium.....	4	4	3	4	32	34	34	32	32	32	32	32	32	
Denmark.....	41	39	32	34	34	34	34	34	34	34	34	34	34	
Ireland.....	6	5	6	6	37	38	38	38	38	38	38	38	38	
Netherlands.....	57	41	40	18	27	28	30	27	27	27	23	23	23	
Belgium/Luxembourg.....	25	31	20	18	27	28	30	27	27	27	23	23	23	
France.....	35	28	44	42	38	45	45	46	46	46	50	50	50	
Germany, Federal Rep. of.....	74	64	66	45	44	46	55	59	59	59	58	58	58	
Germany, Democratic Rep. of.....	16	17	17	23	14	14	15	16	16	16	16	16	16	
Austria.....	6	7	9	9	11	9	8	10	10	10	10	10	10	
Czechoslovakia.....	43	45	49	49	42	43	44	45	45	45	46	46	46	
Hungary.....	25	22	24	28	29	26	25	24	24	24	24	24	24	
Switzerland.....	7	6	6	5	5	5	5	5	5	5	5	5	5	
Poland.....	17	45	53	61	52	47	47	47	47	47	47	47	47	
Soviet Union 2/.....	75	65	49	8	29	28	28	28	28	28	28	28	28	
Spain.....	45	65	92	60	61	84	78	85	85	85	90	90	90	
Portugal.....	45	4	6	8	8	11	10	10	10	10	15	15	15	
Italy.....	141	180	184	176	207	251	334	340	340	340	340	340	340	
Yugoslavia.....	46	20	22	23	24	22	27	27	27	27	26	26	26	
Greece.....	8	11	8	11	7	11	12	13	13	13	13	13	13	
Russia.....	43	34	46	10	10	40	41	42	42	42	42	42	42	
Romania.....	6	6	4	4	7	11	4	4	4	4	4	4	4	
Turkey.....	10	12	16	14	45	76	110	116	116	116	130	130	130	
South Korea.....	11	14	16	15	19	28	36	36	36	36	45	45	45	
Taiwan.....	232	202	227	285	220	255	293	267	267	267	270	270	270	
Japan.....	5	6	5	5	5	5	6	6	6	6	6	6	6	
South Africa 2/ (21).....	81	81	69	74	88	85	88	71	71	71	74	74	74	
Other Countries.....	81	81	69	74	88	85	88	71	71	71	74	74	74	
Total Selected Countries (51).....	1,174	1,122	1,176	1,122	1,165	1,337	1,469	1,483	1,483	1,483	1,502	1,502	1,502	

1/ Includes cattle hides, calf and kip skins and buffalo hides.
2/ Trade in pieces converted to Metric tons.

3/ Less than 500 tons.
4/ Year beginning July 1.

SOURCE: Prepared or estimated on the basis of official statistics of foreign governments, other foreign source materials, reports of U.S. Agricultural Attaches and foreign service officers, results of office research and related information.

April 1979

Dairy, Livestock and Poultry Div.
Commodity Programs, FAS, USDA

Description of Tannery Processing
Stages**TRIMMING
and SORTING**

- (Object: Preparation of skins for processing) The first few steps in getting hides ready for processing take place in the tanner's *hide house*, a large storage area that is kept cool and well ventilated. It is here that the tanner receives and stores the hides which have been shipped to him from the meat packers. These are all in a *cured* state (described in the previous chapter), each one being individually bundled and tied with a rope. Trucks or freight cars deliver about 1000 hides at a time — a quantity weighing in the vicinity of 25 tons.

The initial tannery operation consists of opening up the bundles and trimming off the heads, long shanks, and other perimeter areas. These *offal* areas generally do not make good leather and, if left on, would interfere with much of the tannery equipment through which the hides will be processed.

As a further aid to easier handling, the

hides are cut lengthwise along the backbone head to tail to make two *sides*. This is the origin of the term *side leather*, or in other words leather that is processed as two sides rather than one whole hide. The term bears no connection to the type of tannage, color, etc., of the resulting leather. Figure 4 shows a hide being *sided* and bundles of stored hides can be seen in the background.

Traditionally, tanning is a so-called batch process. The next step, therefore, calls for gathering a number of sides, usually totaling 5,000 to 10,000 pounds, to form a *pack*. Each pack is properly identified as to size, weight, type of skin, and any other information that will be helpful to the later processing.

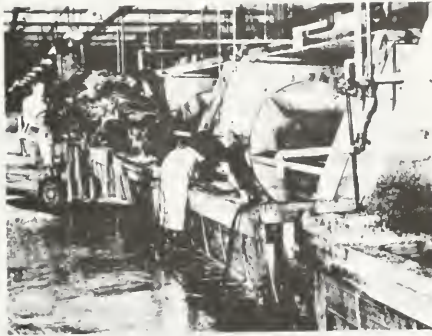
**SOAKING**

- (Object: Restore lost moisture to the skins) As a result of the curing process the hides will have lost a good deal of their natural moisture.



4. The "siding", or cutting in half, of a cattlehide.

The tanner must now restore moisture so that the chemical treatments that are to follow can fulfill their purpose. This is done by soaking the skins in water to which chemical *wetting agents* (similar to household detergents) and disinfectants are usually added.



5. Paddle vats used for soaking and unhairing operations.

The soaking is accomplished in *paddle vats* as pictured in Figure 5. These are half-round cylindrical vats into which a paddle wheel dips. The latter is much like those found on old river steamboats. As it rotates in the soak liquor it causes the hides to move about and flex. They gradually absorb water and become softer and cleaner as a result. From 8 to 20 hours, depending on the thickness of the hides, is required for proper soaking.

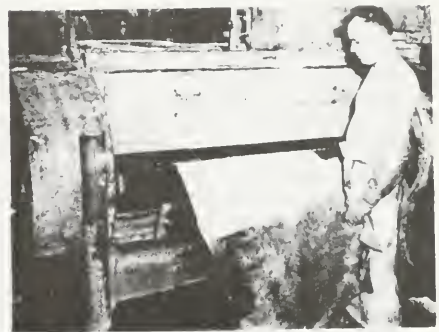
At the completion of the soak, the skins are washed by introducing fresh water at one end of the vat and allowing the effluent to discharge at the other end. The washing removes excess salt, dirt, and blood from the skins.



FLESHING

- (Object: Removal of excess flesh and fatty substances) The next step, called *fleshing*, is a mechanical operation that rids the hides of excess flesh, fat, and muscle that is to be found on the inside (flesh side) of the skins. The outside (grain side) still contains the hair at this point. Many hides are fleshed at the packing house.

Soaked hides are removed from the paddle vat, piled on pallets to drain, and transported to the fleshing machine. Figure 6 is an illustration of this machine. It is comprised of a number of rollers, the most important of which is called the cylinder. Protruding from the cylinder are many cutting blades that are positioned, from center to each end, in the form of two opposite helixes. This configuration serves to keep the skins stretched to their width as they are fleshed, and prevents what would otherwise be a tendency to bunch up toward the center of the machine.



6. Cutting away unwanted fleshy matter on a fleshing machine.

An operator places a hide about halfway into the open machine, flesh portion against the cylinder, and closes the machine by depressing a foot pedal. The front rollers position the hide against the cutting cylinder that is rotating at high speed. The latter scrapes away the undesirable fleshy matter while the rollers withdraw the hide into the hands of the operator. He then turns the skin around and repeats the process on the remaining half.



UNHAIRING

- (Object: Removal of hair, epidermis, and certain soluble proteins) The hides are now ready to have the hair removed. This is primarily a chemical process, although mechanical unhairing equipment is called upon at times to effect complete removal of hair after it has been loosened.

The chemicals, or dipilatory agents, actually have a three-fold purpose. They must (1) destroy the hair or attack the hair roots so that it will come free of the skin; (2) loosen the epidermis, a hard outer layer covering the grain; and (3) remove certain soluble skin proteins that lie within the hide substance. At the same time, it is essential that these agents have little or no effect on the leather-making constituents of the hide. Quite fortunately, there are certain chemicals that are specific in their attack on the undesirable components while leaving the desirable *collagen* (leather-making) substance pretty much alone.

The most commonly used system employs calcium hydroxide (hydrated lime) and sodium sulfide. The fleshed hides are placed in paddle vats (Figure 5) containing water and the dipilatory chemicals. The concentration of these materials, the water temperature, and the amount of agitation (*paddling*) all have a direct bearing on the rate at which the unhairing proceeds. For example, higher concentrations and temperatures result in fairly rapid hair removal. The entire hair in such cases is generally dissolved in a few hours. If it is desired to save the hair for its commercial value, a longer procedure using weaker solutions and lower temperatures is employed. This results, after two to four days, in an attack of the hair roots only, and the loosened hair can be collected, washed, dried, and sold for various uses.

In cases where the chemical treatment alone does not remove all the hair or hair roots, the process can be completed on an unhairing machine. The latter is very similar to a fleshing machine (Figure 6) except the cylinder blades are blunt and produce more of a rubbing action rather than cutting.

The lime and sulfide chemicals used in unhairing produce a very alkaline solution (high pH). The hide fibers under such conditions acquire a considerable affinity for water. As a result, the fibers absorb large amounts of moisture which makes them swell up. An unhaird skin in the lime-sulfide state is about twice its normal thickness, a condition which the tanner calls *alkaline swelling*.



BATING

- (*Object: Removal of residual unhairing chemicals and non-leather making substances*)

At this point, the hides are free of hair, plump, and moderately clean. The alkaline materials used in the unhairing are still present in relatively large amounts, and now that they have performed their function they must be removed. In addition, there are still some non-leather making constituents in the grain and throughout the thickness of the hide; removal of these is necessary to improve the appearance and resiliency of the resultant leather. Bating accomplishes these objectives.

The first phase of the bating process, termed *deliming*, eliminates the lime and alkaline chemicals present. The excess of these is removed by washing the hides in large cylindrical drums (Figure 7). The drums have hollow axles and rotate at a speed of about 16 revolutions per minute. On one side of the drum there is a mixing tank in which chemicals that are to be added may be prepared. A pipe leads from this tank into the drum through one of the hollow axles. Through the other axle a water pipe is inserted. Whenever the process calls for washing the hides, a perforated door is fastened into the place normally occupied by a solid door. As the drum rotates, water is introduced through the water pipe and the effluent discharges through the perforated door.

The vast network of collagen fibers in a skin tend to hold onto the last portions of lime. To speed up the delimiting operation additional chemicals are employed at this point. Salts like ammonium sulphate or ammonium chloride are added to convert the residual lime into soluble compounds which later can be washed free of the system. As this process takes place, some of the excessive alkaline swelling begins to disappear, and the skins start to return to a more normal thickness.

The delimiting chemicals also perform another useful function. They adjust the acid-alkaline conditions (pH) to the proper point for receiving the *bate*. Bate are enzymes simi-

lar to those found in the digestive systems of animals.

The second phase of this process, then, commences with the addition of the bate itself. It attacks and destroys most of the remaining undesirable constituents of the skin. Some of these substances, such as hair roots and pigments, are in the outer (grain) portion of the hide. Their removal creates a softer, less harsh feeling to the grain surface and gives it a cleaner appearance. Also attacked are glue-like protein substances that are located between the leather-making fibers. If allowed to remain they would tend to cement the fibers together to the point of making the resultant leather hard and *tinny*.

As was the case in unhairing, the amount of bating material, the temperature, and the length of time are critical to the extent to which bating takes place. Commercial processes vary in time from a few hours to overnight, depending upon the nature of the skins being handled. Modern bates are actually mixtures of chemical deliming agents and various enzymes, permitting both phases of this overall process to be conducted simultaneously.

When the bating chemicals have completed their job, the hides are washed thoroughly to rid them of all the substances which this operation has loosened or dissolved.



PICKLING

- (*Object: Transform the hides into an acid environment*) We are now approaching the time for performing the actual tannage. The previous steps have removed all the undesirable constituents (flesh, hair, non-leather making substances) from the hides. One final preparatory step remains and is called *pickling*.

Pickling places the skins in an acid (low pH) environment ready to accept the tanning materials. This step is necessary because the chrome tanning agents that are to follow are not soluble under alkaline conditions. Thus, if they were added to non-pickled skins, they would precipitate from solution and therefore not effect a tannage. Any of a number of dif-

ferent acids can be used for this purpose; sulfuric acid is the most common.

The pickling process first calls for the addition of common salt, or brine, to the system. If acid was added alone, a condition called *acid swelling* would soon develop, similar in many respects to the alkaline swollen state of limed hides. Tanning a skin in this condition would produce inferior leather. The purpose of the common salt (many other chemical *salts* will function similarly) is to attract and *tie-up* the excess moisture that would otherwise cause the fibers to swell.

Pickling, then, is the process of adding salt and then acid to the hides. It is frequently done in the same drum immediately following the bating procedure. It takes only a few hours for the salt and acid to penetrate completely.

The pickling operation is a preserving technique in its own right, and skins can be kept in this state for extended periods of time without fear of deterioration. Though not common practice in our country, this procedure is used extensively on certain skins (notably sheepskins) in other areas of the world where it is desired to complete all of the pre-tannage operations at the point of slaughter, and then export the pelts elsewhere for tanning.



TANNING

- (*Object: Conversion of the skin into a stable, non-putrescible material*) The next step in our operation is the tannage itself. The primary function of any tanning agent is to convert the raw collagen fibers of the hide into a stable product which is no longer susceptible to putrefaction or rotting. In addition, these materials significantly improve many of the properties of the substance; for example, its dimensional stability, abrasion resistance, resistance to chemicals and to heat, the ability to flex innumerable times without breaking, the ability to endure repeated cycles of wetting and drying, etc.

The actual chemistry involved in tanning is quite complex and beyond the scope of this book. As with so many things in this world

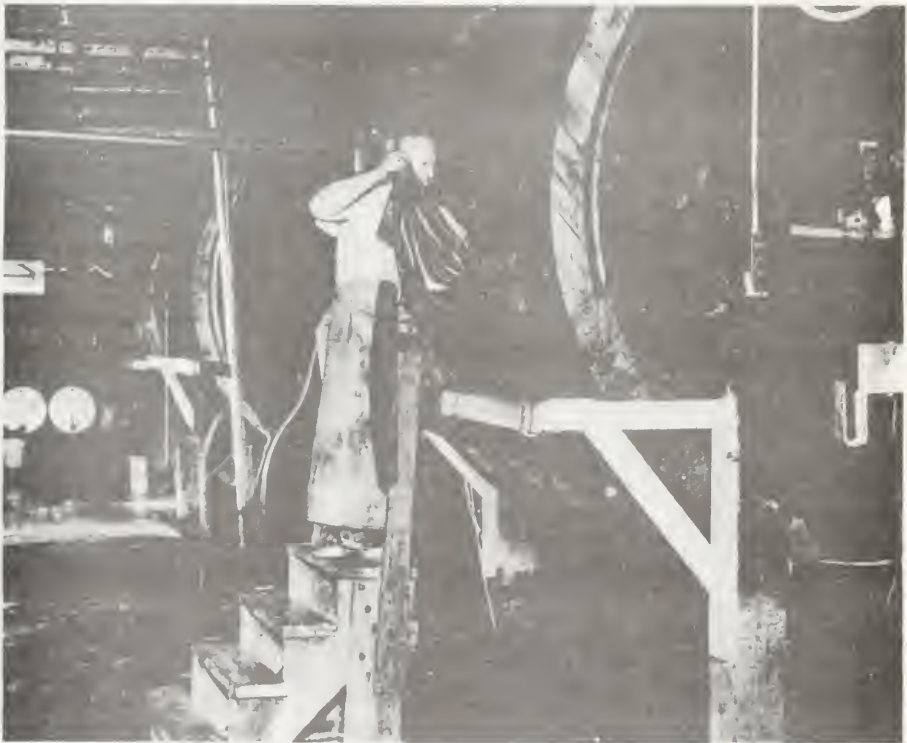
about us, man first discovered certain practical methods of achieving something that satisfied his needs without actually knowing many of the whys and wherefores of the subject. So it was with tanning, the oldest known manufacturing process; practical methods preceded knowledge of why many of these chemical processes worked. Recent times have changed much of this and leather chemists have simplified much of the complex mechanism that is involved in tanning. This in turn has led to the development of new tanning materials and methods designed to impart specific properties into today's leathers.

The tanning method which ranks foremost today is the one called *chrome tanning*. It finds favor chiefly for two reasons: (1) it can be accomplished in a much shorter time (4-6 hours) than prior classical methods, and (2)

it produces a leather that combines to best advantage most of the chemical and physical properties sought after in the majority of leather uses.

Tanning is done in the same large drums as previously described (Figure 7). It can be executed in the same drum as was used for bating and pickling, as soon as the latter operation is complete. If, however, the hides have been removed after pickling for storage or to sort for quality, they are put back into a drum along with some brine. Brine rather than water is used to *float* the skins in order to guard against the possibility of acid swelling, as discussed under PICKLING. The proper amount of chrome tanning agent is then measured out, placed in the mixing tank, and introduced into the revolving drum.

Considerable attention is given to the



7 Drums used for bating, pickling, tanning, retanning, coloring, and fatliquoring operations.

preparation of the chrome tanning agent prior to its use. The chemical state of the material, as well as the conditions inside the drum, must be such as to permit good penetration throughout the thickness of the hide. For example, if the affinity of the tanning agent for the protein fibers is made too great, too much of it will fix on the skin surfaces, with insufficient amounts in the internal sections. Poorly tanned, non-uniform leather is bound to result.

To prepare a chrome tanning agent with the correct properties, the tanner takes a chromium salt, such as sodium bichromate, and reacts it with sugar-like substances plus sulfuric acid. This procedure *reduces* the chromium salt to a substance chemically known as *basic chromium sulfate* — or popularly called simply *chrome*. The operation is performed in large reaction vessels that are equipped to control the rate of reaction, important to the final properties of the material. A tanner usually makes up about a week's requirement of chrome at a time, and draws from it as required.

Chrome imparts a bluish-green color to

the hides (called "blue" state) and this property is made use of in assessing the extent to which penetration has been achieved. When it is deemed adequate, the pH conditions of the system are slowly altered to increase the fixation of chrome with the skin protein. This is done by adding a mild alkaline substance such as sodium bicarbonate (baking soda); it reduces the acidity and increases the affinity of the protein for the chrome. The entire tanning takes between 4 to 6 hours to complete, depending upon the thickness of the hides. The tanned hides are then dumped into large boxes which fit underneath each drum. They have holes in them to permit the excess solution to drain away from the skins.

The rate at which tanning proceeds can be followed by determining the *shrinkage temperature* of the hides. Tanning materials impart increased heat resistance to leather. If an untanned piece of hide is heated in a beaker of water, it will shrink in size quite noticeably when the water temperature reaches about 140 F. The shrinkage temperature increases



8. A portion of the control laboratory in a modern tannery.

measurably as tanning proceeds, and when fully chrome tanned, leather can withstand a temperature of 212 F (boiling point) without shrinking.

In addition to this test, there are chemical methods by which the tanner can quantitatively measure the chrome content of his leather. It can be seen from the discussion above that the modern tanner relies heavily on his laboratory facilities (Figure 8) to insure the production of quality leather.



WRINGING

- (Object: Remove excess moisture for splitting) We have already seen that there are many tannery operations whose purpose is putting the hides into the proper condition for a subsequent step in the process. Such is the case of the next step, termed *wringing*; it removes excess moisture from the stock so that it can be properly handled on the splitting machine which follows.

The drain box containing the tanned hides is moved with an electric hand truck, or fork truck, to the wringer. As the name suggests, this machine consists of two large rolls which squeeze out the excess moisture as the skins are fed through it. It works on the same principle as a clothes wringer.

This action also compresses the leather to something less than its natural thickness, but because of the inherent resiliency of the fibers, they soon spring back to normal.



SPLITTING and SHAVING

- (Object: Adjust the thickness to that required for the end use) The thickness of all hides and skins can vary quite a bit. Some of this is related to the age of the animal, but even on any given hide there will be thickness variations between different parts of the skin. Since this variability, if not eliminated, would cause problems for the manufacturers of leather goods, and because various end uses require different thicknesses, it is now necessary to correct for this.

The bulk of this thickness adjustment is accomplished by *splitting*, as pictured in Figure 9. The machine is something like a band saw turned on its side so that the rapidly moving cutting edge is horizontal. Instead of a saw blade, a sharp steel band knife does the cutting, or splitting. Adjustable feed rolls are placed above and below the band knife in such a precise manner as to control the resulting thickness within one-hundredth of an inch.



9 Splitting side leather to uniform thickness. The bottom or flesh layer is termed a "split".

The hides are fed through the machine with the outer side up, yielding a grain portion of uniform thickness. The underneath or flesh layer that is cut off is called a *split*. Usually there is a fairly large area of the split which still possesses enough thickness to warrant further processing. Though a split no longer has any grain, it is still a valuable raw material for making into sueded types of leathers. A tanner may process his own splits or sell them *in the blue* (that is, chrome tanned only) to other tanners who specialize in making such leathers. For the purposes of this discussion, we are now concerned from this point on with only the grain portion of the splitting operation.

Our next operation, *shaving*, can be seen in Figure 10. Frequently, one or two of the thinnest portions of a hide will not be thick enough to have come in contact with the splitting knife. The shaving machine, which has helical shaped cutting blades similar to the previously described fleshing machine, is used to clean off any such areas that show evidence of

fleshy matter. If so desired, the shaving machine can also be used to further level the overall thickness of skins to exact specifications.



10. Shaving skins for additional thickness adjustment.



RETANNING

(Object: Impart properties of other tanning agents)

COLORING

(Object: Color with aniline derived dyestuffs)

FATLIQUORING

(Object: Lubricate the fibers for flexibility)

The hides are now put back into drums (Figure 7) to perform the three operations listed above. Although each of these has a vastly different purpose, the tanner considers them as a unit because they follow one another without interruption, requiring a total time of about 4 to 6 hours.

RETANNING

The *retanning* operation gives the tanner an opportunity to combine the desirable properties of more than one tanning agent into his leather. It is in effect a second tannage. There is a large family of materials which can be employed for this purpose, the more common ones being vegetable extracts and syntans.

Vegetable extracts are derived from trees and shrubs by the application of heat and water; they are among the oldest tanning materials known. The names of some of the more common ones are quebracho, wattle, sumac, hemlock, oak, and spruce. These substances add solidity and body to chrome tanned leather, and help to minimize any variations in the character of the leather that may still exist between different parts of the hide.

Syntans are man-made chemicals, developed about 50 years ago, that impart a variety of properties to chrome tanned leather. They are used extensively in the manufacture of many of the softer side leathers which have become popular in recent years. They also find wide use in making white or very pastel shades, since most of them have a pronounced bleaching effect on the bluish-green chrome color of the original tannage.

The retanning step generally takes much less time to execute than did the original chrome tannage. First of all the skins are washed and *neutralized* with mildly alkaline chemicals to adjust both temperature and pH of the system to the best levels for the particular retan material selected. The chosen material is then introduced into the revolving drum and combines with the leather usually within 1 or 2 hours time.

COLORING

The natural beauty of leather is made even more striking by the wide variety of shades which the modern tanner is capable of producing. The dyeing of leather is an art in its own right, as there are several factors to contend with which are not present in the coloring of most other substances.

One such item is nature's own built-in variability among skins that takes the form of different pigmentation and other grain characteristics. Of course all products of nature have varying degrees of non-uniformity. But in the processing of such things as cotton fibers into textiles, cellulose fibers into paper, etc., the raw materials are generally mixed up and blended during the early stages of processing, producing a homogeneous base on which to apply the coloring matter. The tanner cannot blend or rearrange his leather fibers, and it is

therefore essential that he tan and retan his leather in such a uniform manner as to minimize any factors that could lead to uneven dyeing. We should make note of the fact, however, that a very slight amount of shade variation actually enhances the overall coloring effect, and is something no synthetic product can easily duplicate.

A second important consideration which the leather colorist must take into account is termed *penetration*. As the name suggests, it refers to the depth to which the coloring matter penetrates into the leather. Dyestuffs differ widely in their ability to penetrate. Since it is only rarely that a particular color can be produced with a single dyestuff (usually blends of two, three, or more are required), the tanner must select combinations that will work well together; that is, penetrate and exhaust from the coloring solution at as nearly the same rate as possible.

Coloring is accomplished with aniline-type dyestuffs which are derived in many cases from products of coal. They are dissolved in very hot water and added through the hollow axle in the rotating drum as soon as the retanning step is completed. The dyestuffs combine with the skin fibers to form an insoluble compound which becomes part of the skin itself. The rate at which the dyestuff exhausts from the color liquor influences the resulting shade, degree of penetration, etc. The faster the exhaustion rate, the greater will be the amount of surface color at the sacrifice of penetration. In this regard, the tanner once again makes use of pH control in order to help regulate the affinity of the chosen dyestuffs with the leather fibers.

There are hundreds of dyestuffs and auxiliary products available to today's tanner. They possess widely differing properties, but by careful selection and application the tanner can produce a myriad of appealing shades with good resistance to fading, perspiration bleed, and the effects of dry cleaning and washing. The most commonly used dyestuffs and their chief characteristics include:

ACID DYES (penetrate readily, make bright and lively shades).

METALLIZED DYES (level dyeing, for subdued pastel shades).

DIRECT DYES (surface dyeing, produce deep shades).

BASIC DYES (surface dyeing, make very brilliant shades).

FATLIQUORING

Several of the preceding operations have a bearing on how firm or soft a leather will be. *Fatliquoring*, however, has the most pronounced effect on this characteristic and is the last of the *wet* chemical operations to which the leather will be subjected. It is a process by which the fibers are lubricated so that after drying they will be capable of sliding over one another. In addition to regulating the pliability of the leather, the fatliquor contributes greatly to its tensile strength.

The basic ingredients in fatliquors consist of oils and related fatty substances which represent products of the animal, vegetable, and mineral kingdom. As one would suspect, these oily substances are not soluble in water. They can be made to react, however, with certain chemical reagents that impart water solubility to them. Another approach that is also used is to add a class of chemicals known as *emulsifiers* which, although they do not react chemically with the oily substances, do permit them to be dispersed in water to form a stable emulsion.

After the hides are colored, they are washed to eliminate traces of residual dyestuff, excess acid, etc., and to adjust the temperature to that required for the fatliquor system chosen — usually about 125°F. The fatliquor is dissolved in hot water and added to the rotating drum; about one hour is required for exhaustion.

The tanner, by the selection of both the type and amount of fatliquor, can produce from the same basic tannage side leathers with the firmness necessary for items such as ski boots or with the glove-soft character found in many of today's casual shoes.



SETTING OUT

- (Object: Smooth and remove excess mois-

ture) Having now passed through all of the wet chemical operations to which they must be subjected, the hides are approaching the time when they must be dried out. The next step, termed *setting out*, puts them into the proper condition for drying. It is a multi-purpose operation, which smoothes and stretches the skin, while compressing and squeezing out excess moisture from it.

The type of a machine used is much like a fleshing machine (Figure 6) except that the blades on the cylinder are shaped so as not to produce any cutting action. Considerable pressure is applied to the rolls to aid in smoothing down the grain.

As a result of this operation, the leather fibers assume a relatively compressed state — a condition which will be maintained during the subsequent drying. The skins at this stage contain about 60% moisture.



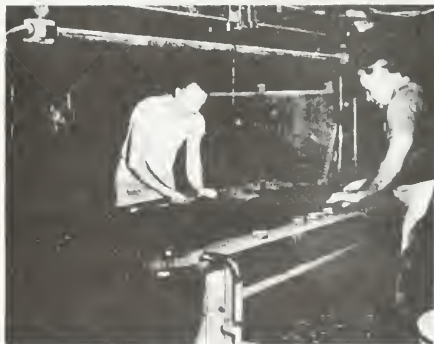
DRYING

• (Object: Removal of all but equilibrium moisture) Leather drying can be accomplished by four different methods. The method that is chosen will have a bearing on the final characteristics of the leather.

The most simple method, called *hanging*, is performed by draping the hide over a horizontal shaft and letting it dry as you would clothes on a line. In order to speed up the process, the hung skins are usually passed through a large drying oven by means of a conveyor system. It is important that drying temperatures be kept moderately low (below 130 F) in order to minimize shrinkage.

Another method, called *toggling*, is illustrated in Figure 11. Skins so dried are kept in a stretched position by means of clips called *toggles*. Generally two operators work as a team, fastening toggles to the perimeter of the skin, stretching it, and attaching the toggle (which has a small hook on the underneath side) to a perforated frame. The frame is then turned over and a second skin attached in similar fashion to the other side. Finally, the operators slide the frame into channels in the drying oven.

The most popular method in use today for drying side upper, garment, split and other specialty leathers is called 'pasting'. Pictured in figure 12, and as the name suggests, the skins are actually pasted onto large surfaces called 'plates', about 6x11 feet in size. The plate may be made of porcelainized steel, stainless steel or even glass, and they are attached to a continuously moving mono-rail. The plates first pass through equipment that scrubs them clean and wipes them dry. Then a spray gun, moving up and down automatically, sprays the paste solution uniformly over the surface. The paste is generally a starch-like material specially formulated to provide good adhesion of a heavy wet skin and hold it in place during the drying process, but it must allow the skin to be 'stripped' or peeled from the plate easily once it is dry. Also any paste left on the skin must be easily washable from leathers that are to be made in 'full grains'.



11. Toggling wet skins on metal frames preparatory to drying.



12. Slicking out wet skins on adhesive-coated plates for paste drying.

The operators place the leather grain side against the plate, stretching and smoothing it out with a dull bladed instrument called a 'slicker'. The pasted skin is transported by the mono-rail into a drying oven where controlled temperatures (120-170 F) and humidities (40% RH) are maintained. Skins are stripped from the plates and stacked as the plates come from the dryer. Paste drying gives the tanner more 'yield', that is, more square feet of leather per hide than any other type of drying.

Drying times for these three methods vary from 4-7 hours. Regardless of which drying method is used, it is important that the leather not be over-dried. Normal leather, dry to the touch, still contains 10-12% moisture.

The fourth, and newest, drying method is called 'vacuum drying'. In the vacuum dryer the wet skin is smoothed out on a heated stainless steel plate; it is then covered by another plate consisting of a perforated steel plate covered by felt or cloth. A vacuum is pulled which extracts water from the leather. Care must be taken that tanning materials not chemically bound are not pulled out with the water. Vacuum drying can be performed in a very short time, 3-8 minutes usually, but is normally a very low production method of drying and for this reason is not in widespread use to replace straight-through drying systems, such as pasting. It is often used as an auxiliary method of drying to remove limited amounts of moisture at specific points in process.



CONDITIONING

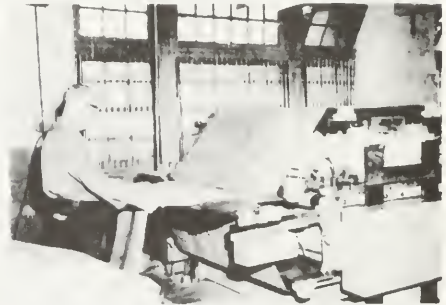
• (*Object: Introduction of controlled amounts of moisture*) At this stage, the leather could be used as is for some applications. In general, however, the drying operation renders the hides too hard and unworkable for most shoe upper construction. The shoe manufacturer requires varying degrees of softness — or *temper* as the tanner calls it — depending on whether he is making a men's hand sewn moccasin (the "loafer") or the equally popular soft, supple cold weather boot for women's wear.

The *conditioning* of leather, sometimes called *wetting back*, is the first step in adjusting for the final temper. It consists of applying a fine mist of water to the leather surfaces as the hides pass on a conveyor between several shower-like nozzles. The water is distributed by capillary action through the thickness of the skin. Each hide is then piled one on top of the other on a portable table. A watertight cover is wrapped over the load and the leather is left to *mull* overnight to permit uniform distribution of the moisture. The moisture content of the leather is thus raised to about 25% throughout.



STAKING & DRY MILLING

• (*Object: Mechanically soften the leather*) Leather is *staked* to make it pliable. In combination with the correct fatliquoring treatment, as described on page 20, staking governs the final firmness or softness of the leather.



13 A staking machine used to mechanically flex and soften leather.

Most staking is done today on automatic machines as pictured in Figure 13. Leather is carried by conveyor belts between a very large number of rapidly oscillating, overlapping fingers or pins. The pins pound into the piece of leather from both above and below hundreds of times as it passes through the machine, stretching and flexing the leather in every direction. The mechanical stresses that staking imposes on the leather are very great, and illustrate the inherent strength of leather. The moisture added during the conditioning operation helps to facilitate the flexing of the leather fibers. This

high production 'through-feed' machine is capable of staking up to 300 large sides per hour and more than 500 smaller skins.

Another type of mechanical softening is called 'dry milling'. This method is used generally on lighter weights, particularly garment leathers, and may be used in conjunction with staking. It consists of throwing the previously dried leather into a large drum and tumbling it for a time (½-8 hours) until the softness and grain pattern desired are obtained.



BUFFING

- (Object: Smooth the grain surface by mechanical sanding) Some skins have natural healed scratches or parasitic damage in the grain of the leather. Such blemishes attest to the genuineness of leather and are generally not detrimental to its use. To improve its final appearance, however, it is frequently desirable to minimize such a condition by lightly buffing the grain surface of the leather.



14 Smoothing the grain surface of side leather on a buffing machine.

The buffing machine shown in Figure 14 uses a sanding drum covered with a special abrasive material similar to sandpaper. Other types of machines utilize a rotating belt of abrasive paper in much the same fashion as belt Sanders used in sanding wood, etc. Various controls on the equipment regulate the extent

to which the abrasive material cuts into the grain.

The light sanding leaves a clean, smooth grain surface ready for the subsequent finishing operation. Any leathers which are not so buffed are called *full grain*. If leather is to be used in an unlined shoe, it is desirable to have a smooth, fine nap adjacent to the foot, in which case buffing may also be performed on the flesh side of the leather as well.

After the skins are buffed it is necessary to remove the *dust* created by this operation. Several methods are employed, including the use of rotary brushes, jets of compressed air, and vacuuming techniques. Modern buffing machines frequently incorporate such equipment in tandem with the buffer, making the entire procedure a one-step operation.



FINISHING

- (Object: Application of film-forming materials to the grain to provide abrasion and stain resistance, and enhance color) So far we have been dealing with the chemical and mechanical operations which have converted the skins into a stable material — one with strength, flexibility, smoothness, etc. The *finishing* department in a tannery is the area where an alert and creative mind now adds the final touches to enhance the natural beauty of the product, while further adding to its serviceability. It is here that many imaginative effects are produced by varied applications of coloring matter compounded with different film-forming materials.

The type of finishing system that is employed is dictated by the nature of the skins and the intended end use. Thus, leathers which possess superior grain characteristics generally receive light applications of transparent coating materials containing subtle amounts of coloring matter (e.g., aniline dyes). As a result, all of the inherent beauty of the grain shows through, while the surface is protected against abuse. This is analogous to the natural finishing of fine furniture and leathers so finished are in

demand for quality footwear that features individuality, depth, and rich appeal.

Where a more opaque coloring effect is desired, selected pigments are added to the finish composition. Such finishes possess greater *covering power*, in the same fashion as paint compared to shellac. This type of finish serves to upgrade skins of coarser grain. These leathers are used for work shoes and the like.

From an appearance standpoint, the two finish systems described above represent the extremes which are obtainable; there are many variations that lie between these which produce additional effects.

In recent years the vast chemical industry has given birth to a number of new coating substances, and the tanner has been quick to adapt many of these to his leathers. No longer is he restricted to casein, shellac, albumin, wax, linseed oil — materials of yesteryear. Today more sophisticated film-forming substances, materials such as acrylate, vinyl, and butadiene polymers, nitrocellulose, polyurethanes and the like, are in general use as leather coatings. This has resulted in leathers with marked improvements in resistance to abrasion and staining — leathers which hold their true colors indefinitely and are easy to care for.

A good example of product improvement related to the use of these new materials is the case of patent leather. Only a few short years ago the best coating system available to yield this perennial favorite was a mixture of varnish-like substances that sometimes cracked or peeled in use. Today, polyurethanes and related chemicals are used to produce surface coatings on patent leather that withstand the most severe wearing conditions, while retaining their high lustre for the life of the shoe.

The equipment used to apply finish materials takes different forms, each having its own special features for the chosen finish system. One of the conventional methods makes use of a *seasoning machine* as pictured in Figure 15. The finish is pumped into a trough where it is picked up by a rotating fluted roll. A rotary brush transfers the finish from this roll and deposits it onto the leather which passes beneath on a *bolster*. Finally, mechanized *swabs* work the coating material into the grain and smooth it out.



15. The application of coating materials on a seasoning machine.

Figure 16 illustrates a *flow coater* at work, a method especially adapted to depositing a heavy coat of finish. Two types of machines are in use. In both cases the finish is pumped into a reservoir, or *head*, which is placed above the conveyor that transports the leather. In one type the finish flows down in a thin unbroken sheet from a narrow slit in the bottom of the head. The other type is designed so that the finish is made to overflow from the head like a waterfall.



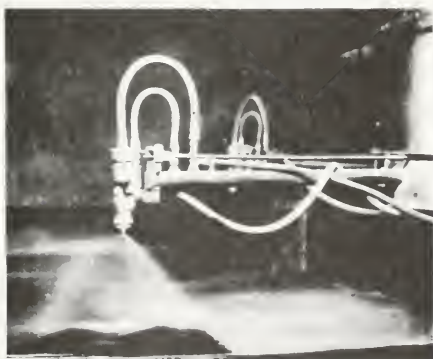
16. A flow-coating machine laying down a film of finish onto the leather surface.

Another widely used method is the *rotary spray*, pictured in Figure 17. In this instance, several spray guns are mounted on a unit which revolves continuously over the conveyerized leather. Spray equipment lends itself well to the application of light coats of finish. In addition, unique patterns and multi-tone effects can

be obtained by varying the atomization of the spray, the angle of the guns, their speed, etc.

The leather, with its wet coat of finish, must now be dried to evaporate the water or solvents contained therein, and cause the coating materials to coalesce into a durable, protective film — one that becomes an integral part of the leather. Various types of dryers are used, one of the most common being in the form of a long tunnel. Steam heated air or infra-red heating units expedite the drying.

It should be mentioned that, as is the case with most all coating systems regardless of what the substrate may be, only seldom is it possible to produce maximum results with a single application of material. Leather finishing is no exception, and usually several coats of finish are applied (with intermediate drying) to achieve the desired properties. The final coat, applied by spraying, is specifically formulated to seal the bottom coats and develop the required lustre — glossy or matte, as the case may be.



17 Coating materials being applied by rotary spray guns



PLATING

• (Object: Smooth the finished grain surface; also, produce varied grain textures) The final processing step to influence the appearance and feel of the leather is called *plating*. The effect produced is similar to what you would

expect from running a hot iron back and forth over the leather, using tremendous pressure. It smooths the surface of the coating materials just applied, while affixing them firmly into the grain.

Both the finishing and plating steps are carried out in conjunction with one another, a procedure encompassing four or five days time. For example, it is common practice to apply a couple coats of finish, plate, apply another finish coat, plate again, etc.

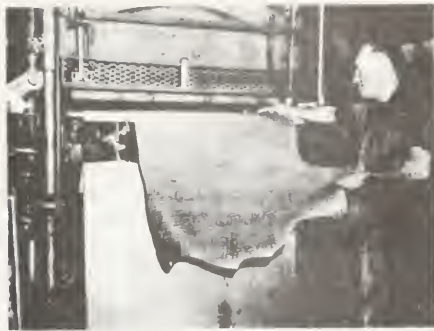
The plating and embossing operations are carried out in presses capable of developing extremely high pressures — up to 300 tons per square inch. On one type of machine the mirror smooth plating surface is steam heated to about 225 F. Leather is fed into the press, pictured in Figure 18, and the press is closed for a second or two. It is then opened and the operation repeated until all parts of the skin have been plated. A more modern smooth plating machine irons the leather by a mirror-finish stainless steel cylinder as it passes through the machine. These high production 'through-feed' presses utilize electrically heated oil to maintain the desired ironing temperature, which may go above 250 F, on the cylinder.

Figure 19 shows a machine performing a related operation which is termed embossing.



18 Presses used in plating leather after it has been finished.

A specially engraved plate is used to produce a particular pattern as for example a 'boarded grain'. It is possible to emboss any number of fashionable textured effects into the leather surface this way, including the simulation of



19 An embossing machine used to produce a variety of grain effects on side leather.

another animal's grain characteristics. This demonstrates still another of leather's many attributes — its ability to accept and permanently retain a printed pattern.



MEASURING

- (Object: Determine the area of each side)

When a side leather tanner purchases his raw material, the price he pays is based on the weight of the cured hides. Interestingly enough, he sells the resultant leather on the basis of its area. Since the sides are irregular in shape, a special type of machine is used. (See Fig. 20).



20. Determining the area of leather on a measuring machine.

By the use of photoelectric cells and built-in computers, the square footage is measured for each individual side. The side is passed over the sensing device by means of a conveyor and automatically tallies the footage on an adding machine when it has passed by the cell. The number of square feet is then stamped on the flesh side for each individual piece.

Measuring machines are inspected periodically to insure the accuracy for true measurement.



GRADING

- (Object: Determine the quality of the finished product) We have seen that the process of leather manufacturing is a carefully integrated system of unit operations, requiring close supervision. The final grading of the leather will ascertain the effectiveness of the tanner's quality controls.

Leather is graded for temper, uniformity of color and thickness, and the extent of any defects which appear in its surface. The most perfect leather naturally commands the highest price and is ultimately cut into the finest shoes.

The graded sides are now rolled into bundles of from four to six sides, wrapped in a protective paper cover, secured and labeled. Leather for export is generally placed in wooden boxes for added protection.

And now, after four weeks of painstaking care, the tanner is at last ready to ship his elegant product — leather — into the anxiously awaiting hands of the shoe manufacturer, who will convert it into the most fashionable and durable footwear of our time. The next chapter in this booklet will give an insight into the reason why leather is such a highly prized fabricating material for shoes and countless other items.

Source: *Leather Facts*, (Peabody, Mass., New England Tanners Club, 1978)

APPENDIX 4

MAILING LIST FOR PACKING PLANTS IN THE OLD WEST REGION

Larry Anderson
American Stores Company
320 North Street
Lincoln NE 68501

Don Russell
Cloverdale Foods
Post Office Box 578
Mandan ND 58554

Warren Biermann
Corn Land Dressed Beef Co.
Post Office Box 130
Lexington NE 68850

Tom Morse
 Fargo Beef Industries
West Fargo ND 58078

Lee Mason
High Country Beef Jerky
Post Office Box 155
Lincoln MT 59639

David Young
K-K Ranch Meats
Post Office Box 149
Billings MT 59103

Arvid Schmidt
Meilman Food Industries
Post Office Box 1465
Sioux Falls SD 57101

Bill Mahar
Minden Beef Company
Post Office Box 70
Minden NE 68959

Butch Stanko
Nebraska Beef Packers
Gehring NE 69341

Bob Cators
Rancher's Meats
Post Office Box 547
Douglas WY 82633

Mr. Solomon
Sol's Packing
Bridgewater SD 57319

John Howard
Black Hills Packing Company
Post Office Box 2130
Rapid City SD 57701

Mr. Kaplan
Coast Packing Co. of Omaha
13838 Industrial Road
Omaha NE 68177

Mr. Sherman
Cornhusker Packing Company
4436 Dahlman
Omaha NE 68107

Henry Stanko
Glasgow Packing Company
Post Office Box 829
Glasgow MT 59230

Bruce Marcue
Iowa Beef Processors Inc.
Post Office Box 515
Dakota City NE 68731

John Stann
E. W. Kneip Inc.
7501 Brown Street
Forest Park IL 60130

Sye Ryan
Midland Empire Packing Company
Post Office Box 1375
Billings MT 59103

Lavon Sumption
Montana Livestock Corporation
Post Office Box 2447
Great Falls MT 59403

George Kleine
O'Neill Packing Co. Inc.
Omaha NE 68107

Dennis Esch
Skylark Meats
13060 Renfro Circle
Omaha NE 68137

Rally Koch
Spear Meat Market
10 North 29 Street
Billings MT 59101

MAILING LIST FOR PACKING PLANTS IN THE OLD WEST REGION

Tom Haley
Spencer Foods Inc.
Post Office Box 1228
Spencer IA 51301

L. D. VanBuskirk
Triangle Packing Co. Inc.
Post Office Box 533
Worland WY 82401

Al Mahin, Manager
Western Meats
Post Office Box 799
Elk Point SD 57025

John Morris
Winner Processing
Winner SD 57580

Mr. Hodgen
John Morrel & Co.
Post Office Box 1266
Sioux Falls SD 57101

Aksarben Beef Company
3101 South 24 Street
Omaha NE 68107

Armour & Co., Inc.
Post Office Box 833
Huron SD 57350

Cascade Wholesale Meats Co.
2400 Ninth Avenue North
Great Falls MT 59401

Clark Frozen Foods
Clark SD 57225

C & W Meat Company
Post Office Box 636
Vaughn MT 59487

Dakota Packing Co., Inc.
Post Office Box 1216
Hettinger ND 58639

Doug Dale Meat Packing
Post Office Box 31
Norfolk NE 68701

Pete Stangers
Sunflower Beef Packers Inc.
14 & Division Streets
York NE 68467

Lynn Plamdeck
Union Packing Co. of Omaha
4501 South 36 Street
Omaha NE 68107

Ron Martin
Williston Packing Co. Inc.
Post Office Box 967
Williston ND 58801

Clayton Kingston
George A. Hormel
George A. Hormel Corp. Of.
Austin MN 55912

DeWayne Clark
Pierce Packing Co., Inc.
121 North 15 Street
Billings MT 59102

Aneta Meats Inc.
Post Office Box 127
Aneta ND 58212

Bypass Import Station
RR #1, Box 53
Great Falls MT 59404

Cimpls Inc.
Post Office Box 80
East Yankton SD 57078

Chalet Meats
RR #2
Belgrade MT 59714

Dakota Meats Inc.
Post Office Box 906
Minot ND 58701

Diamond Bar Meats
2305 Brooks Street
Missoula MT 59801

Flanery Foods Inc.
Post Office Box 1225
Scottsbluff NE 69361

MAILING LIST FOR PACKING PLANTS IN THE OLD WEST REGION

Flanery Sausage Co.
Post Office Box 111
Milbank SD 57252

Gibbon Packing Inc.
Post Office Box Q
Gibbon NE 68840

Hi-Line Packing Corp.
Post Office Box 339
Malta MT 59538

John R. Daily, Inc.
2900 Mullan Road
Missoula MT 59807

Madison Foods Inc.
Post Office Box 847
Madison NE 68748

Midland Foods Distributing Inc.
4147 First Avenue South
Billings MT 59102

Montana State Prison Ranch
803 Carter Street
Deer Lodge MT 59722

Morton Meats of Omaha, Inc.
1211 Howard
Nebraska City NE 68502

Nordica Portion Pack Meats
Post Office Box 606
Howard SD 57349

Norton Meats
Post Office Box 613
Omaha NE 68107

Quality Steak
Post Office Box 170
Snyder NE 68664

Restvedts Meat Market
229 East Main Street
Bozeman MT 59715

Seitz-Bowers Processing
Post Office Box 405
Roundup MT 59072

Gallatin Valley Packing
Post Office Box 1506
Bozeman MT 59715

Greater Omaha Packing Co.
5102 South 26 Street
Omaha NE 68107

Huron Dressed Beef Co.
Post Office Box 924
Huron SD 57350

Lloyd Schmitt's Stanford Meat
Stanford MT 59479

Marias Packing Co.
Post Office Box 646
Shelby MT 59474

Missouri Valley Meat Company
Post Office Box 628
Mandan ND 58554

Morton House Kitchens
1001 7 Corsor
Nebraska City NE 68410

M & P Meat Company
605 Third Avenue South
Great Falls MT 59405

Northern States Beef Inc.
3435 Comez Avenue
Omaha NE 68107

O'Brien & Company
3302 Harlan Lewis Road
Bellevue NE 68005

Rahr Meat Service
Post Office Box 529
Glendive MT 59330

Rocky Mountain Packing Co.
Post Office Box 670
Havre MT 59501

Simon Meats
5934 South 25
Omaha NE 68107

MAILING LIST FOR PACKING PLANTS IN THE OLD WEST REGION

Swift & Company
2565 Minnesota Avenue
Billings MT 59102

Tolman Meat Processing
Post Office Box 2124
Hamilton MT 59840

Triangle Packing, Inc.
Post Office Box 646
Choteau MT 59422

Truzzolino Food Products Company
104 North Parkmont Ind. Park
Butte MT 59701

Valley Meat Supply & Service Inc.
1269 West Main
Valley City ND 58072

Flanery Meats, Inc.
Post Office Box 1378
Huron SD 57350

APPENDIX 5

Hide Supply Survey

COMPANY NAME: _____

STATE: _____

NAME OF PERSON FILLING OUT SURVEY: _____

1. There are several types of hides. Please indicate in the spaces below the types of hides that you normally sell and if you sell more than one kind what the percentage of these hides are of the total hides that you sell.

Green _____ %

Wet Salted _____ %

Dehaired _____ %

Tanned _____ %

Other _____ %

2. Please estimate about how many hides you sell per year: _____

3. We believe that hide availability changes by season and that this could be different than cattle slaughter by season. Is this true or false?

TRUE

FALSE

If this is TRUE could you please estimate the percentage of hides which you have available by season.

Summer: _____ %

Winter: _____ %

Spring: _____ %

Fall: _____ %

4. There are a number of hide markets both domestic and international. In which do you sell most of your hides?

DOMESTIC

INTERNATIONAL

What percentage of all the hides that you sell do you believe are sold DOMESTICALLY?

_____ %

5. Your company routinely sells hides. Do you normally:
- a. Sell hides to a domestic, independent buyer _____ %
 - b. Sell hides to a foreign, independent buyer _____ %
 - c. Sell hides to an intermediary processor _____ %
 - d. Sell hides to a domestic tannery _____ %
 - e. Sell hides to a foreign tannery _____ %
 - f. Sell processed hides or leather directly to purse or garment end users _____ %
 - g. Other (Please specify) _____ %

6. Do you ever use a commission agent or other representative to sell your hides to the industries discussed above?

YES NO

If YES is the representative a direct employee of your plant?

YES NO

7. There are a number of methods for selling different products. Some have fairly liberal terms, others are fairly conservative. Out of the list below please indicate the method that you normally use to sell hides.

- a. Open account (How many days to pay? _____)
- b. Cash in advance
- c. Cash upon receipt of goods
- d. Other (Please specify) _____

8. If you are or if you were selling internationally do you think that these payment patterns would be different?

YES NO

If YES how do you think that this would be different?

9. Hides are a commodity and as such have a given international value which fluctuates fairly often. Because you have been in the business and have expertise in how this market operates who do you think most directly effects the market price for hides?

Packing Plants Tanneries
 Independent Buyers End Users of Leather Others _____

10. Do you set the asking price for your hides? Do you set it or is there another method for setting the price paid to you for your hides?

You set it

Other

If OTHER people set the market price who establishes it?

11. As we mentioned before the Old West Regional Commission is interested in determining ways to increase your profit from hide sales. They have several recommendations that they believe could assist you. Their recommendations are:

- a. Assist packing plants with marketing programs to directly sell their hides to foreign markets.
- b. Assisting packing plants to associate together so that they may market their hides directly.
- c. Initiate investigations into other marketing alternatives that could benefit the packing industry.

After reviewing the above do you feel that any of these could assist your industry?

YES

NO

If YES which one(s)? _____

If NO why not? _____

12. We are very interested in your thoughts concerning hide marketing and ways you think could be used to increase your profits. Do you think there is any way to increase your profits? If so what is it? _____

On the other hand very little may be possible. Why do you think this is the case?

13. We are very interested in discussing hide marketing with businesses that specialize in buying and selling hides or represent packing plant operators. Could you please indicate below (or on an attached sheet) as many of these firms, with their business address, as possible.

14. We are also very interested in discussing hide marketing with firms specializing in hide exporting. Could you please indicate below (or attach a sheet) these firms, or if they were already indicated above just circle their names.

This is the end of the survey. Please enclose the questionnaire and any supplemental sheets in the envelope which is enclosed and put it in the mail. If you would like a copy of the survey results for your review, please check this space. _____

MONTANA EXPORT COMPANY

POST OFFICE BOX 2451
GREAT FALLS, MONTANA 59403 USA
TELEPHONE (406) 761-4386
TWX 910-963-2454

APPENDIX 5. a
Cover Letter For
the Survey

July 25, 1980

//2 3 4 5*, 6*
7
*8
*9, 10 11//

Dear //3//:

Enclosed is a survey designed to collect information about aspects of the cattle hide market. The Old West Regional Commission, an association of the States of Nebraska, South Dakota, North Dakota, Wyoming and Montana, has requested that we gather information concerning the cattle hide trade. The objective is to identify ways to possibly increase your profits through the sale of hides from your plant. They desire to assist you, the packing plant operator, with marketing efforts. They, like ourselves, do not have sufficient information to propose initiatives in this area and this is the reason we have developed the survey which is enclosed.

The Old West Regional Commission, if you are not familiar with it, is a vehicle for the Governors of the five States to cooperatively promote economic initiatives which could benefit the region. The Commission has maintained an aggressive international marketing program for the last three years. The Montana Export Company is a private export management firm and is under contract with the Old West Regional Commission to develop this needed information.

The enclosed survey requests information about your business. In some instances we request your opinions concerning various ideas. In other questions we request specific information concerning your cattle hide supply. Our intent is to gather this information and combine it with other data for our analysis. In no case will your response be directly associated with your firm. Rather the collective responses of the industry will help us draw conclusions about how business is conducted. No one but you and the Montana Export Company will ever know how you specifically answered any question. I emphasize this because you may feel that some of these questions address sensitive topics. Even after pledging my word to you, you may still find a question or two objectionable. If this is the case simply skip the question and continue on. Please however answer as many of the questions as possible because your responses to these questions will provide us with the information necessary to make hard recommendations to the Governors of the Old West States.

In that there are relatively few packing plants in the Old West Region it is critical that we receive some kind of response from every operator in the region. We are also fully budgeted to continue this survey process. Please take fifteen minutes out today to answer the questions and mail the survey back to us. This will substantially reduce the amount of time and money necessary to complete the project.

We will make a committed effort to obtain responses from those firms not responding to this initial inquiry. The Old West Governors are very interested in your thoughts. Please make our job easier by answering the questionnaire now.

If you are interested in the cumulative results of the survey I encourage you to personally give me a call after we have had time to compile the results and I will be happy to discuss it with you. If you have any questions concerning the survey, the study, the Old West Regional Commission, the Montana Export Company or anything else I also would be pleased to discuss it with you or you could directly contact the following:

Mr. Eldon Fastrup, Agricultural Marketing Program
Old West Regional Commission
Suite 214 Hedden-Empire Building
Billings, MT 59101 Telephone: 406-657-6297

Mr. Gordon McOmber, Director
Department of Agriculture
State of Montana
Capital Station
Helena, MT 59601 Telephone: 406-449-3124

Or your State Department of Agriculture

I thank you in advance for your time and effort and look forward to discussing this project in more detail should the need arise.

My best to you.

Sincerely,

J. Andrew Kissner
President

Encl.



**OLD WEST
REGIONAL
COMMISSION**

Agricultural Marketing Program
Hedden-Empire Building
Suite 214
Billings, Montana 59101
Telephone (406)657-6297
Telex 31 9512 OWRC BIL

July 24, 1980

To Whom it May Concern:

This letter will serve to introduce the Montana Export Company.

The Montana Export Company is under contract to the Montana Department of Agriculture for the Old West Regional Commission to conduct a Hide Market Study as part of the Old West Agriculture Marketing Program.

It is our intent, through this study, to determine what the marketing patterns are, and if there is any interest in assistance that the Old West Agriculture Marketing Program could provide to enhance or expand the markets for hides domestically or internationally.

In the course of this study I would appreciate your cooperation with the personnel of Montana Export Company by providing the information they request.

Please feel free to contact myself or Joe Lundberg if you have any questions. My phone number is 406/449-3144. Mr. Lundberg's phone number is 449-3124.

Your cooperation is appreciated.

Sincerely,

A handwritten signature in cursive script that reads "W. Gordon McOmber".

W. Gordon McOmber
Director
Montana Department of Agriculture

WGM/dm

MONTANA EXPORT COMPANY

POST OFFICE BOX 2451
GREAT FALLS, MONTANA 59403 USA
TELEPHONE (406) 761-4386
TWX 910-963-2454

APPENDIX 5.c.
Second Cover Letter

August, 15, 1980

//2 3 4 5*, 6*

7

*8

*9, 10 11//

Dear //2 5//:

Several weeks ago I forwarded a survey to your office which solicited information concerning your cattle hide supply. To date I have not received a completed questionnaire from you. If you have already returned it please disregard this letter and let me extend my sincere thanks for your cooperation.

I mentioned in the previous letter that the executive office of North and South Dakota, Wyoming, Nebraska and Montana are interested in possibly assisting you. They are concerned about this issue. Your ideas will form the basis for hard recommendations to these governments for specific action.

Please answer the survey now, without further delay, so that we may expeditiously complete this task.

Thank you in advance for your cooperation.

Sincerely,

J. Andrew Kissner
President

Encl.

Hide Marketing Survey

Company Name: _____

Contact Person: _____

Title: _____

1. Below are a series of ranges which refer to your cattle hide unit sales per year. Please circle the range which most closely approximates your annual cattle hide sales volume.

less than 10,000	10,000 to 50,000	50,000 to 100,000
100,000 to 300,000	300,000 to 600,000	Over 600,000

2. What percentage of this total do you believe you export?

_____ %

3. Below are a number of activities that could characterize your business. Please CIRCLE your most common business practice and indicate what percentage this represents of your total activity in this category. Please CHECK less common, but occurring activities.

EXAMPLE

Do you BUY:

Green Hides 65%
 Wet Salted Hides _____ %
 Dehaired Hides _____ %
 Blue Hides ✓ _____ %
 Tanned Hides and Leather _____ %
 Other _____ %

This indicates that you buy about 65% Green Hides and also buy Wet Salted and Blue Hides.

- a. Do you BUY:

Green Hides _____ %
 Wet Salted Hides _____ %
 Dehaired Hides _____ %
 Blue Hides _____ %
 Tanned Hides and Leather _____ %
 Other _____ %

- d. Do you SELL:

Green Hides _____ %
 Wet Salted Hides _____ %
 Dehaired Hides _____ %
 Blue Hides _____ %
 Tanned Hides and Leather _____ %
 Other _____ %

- b. Do you REPRESENT:

Packing Plants _____ %
 Processors _____ %
 Tanneries _____ %

- e. Do you SELL TO:

Independent domestic buyers _____ %
 Independent foreign buyers _____ %
 Domestic tanneries & processors _____ %
 Foreign tanneries & processors _____ %
 Domestic end users of leather _____ %
 Foreign end users of leather _____ %
 Other _____ %

- c. Do you CONTRACT FOR HIDE PROCESSING

with:

Processors _____ %
 Tanneries _____ %
 Other _____ %

4. Based upon your experience could you tell us if there is a difference between the domestic and international price asked for hides (excluding transportation costs if any.)

YES NO

If YES, is this price higher or lower than the domestic price or does the relationship fluctuate?

HIGHER LOWER FLUCTUATE

5. When you sell hides or leather internationally, do you normally quote:

FOB U.S. Warehouse
FAS U.S. Port
C & F or CIF Foreign Port
Other _____

6. When you sell hides internationally, do you REQUEST payment in cash (using instruments similar to irrevocable letter of credit) an open account system or some other method.

Letter of Credit
Open Account
Other _____

7. Do you use representatives and sales agents to service your accounts?

YES NO

If YES, do you use them for international sales?

YES NO

8. Do you ever advertise or use other materials to promote hide or leather sales?

YES NO

If YES, could you please list below your most common techniques.

9. Do you ever forward contract for a cattle hide supply?

YES NO

If YES, what percentage of your hide supply is PROVIDED through this type of arrangement?

_____ %

What are the normal terms of such an agreement?

This is the end of the survey. Please enclose the questionnaire in the envelope which is enclosed and deposit it in the mail.

APPENDIX 7

U.S. HIDE MARKETING FIRMS ENGAGED IN EXPORT TRADE

A. J. Hollander & Co. Inc.
5 Hanover Square
New York NY 10004

American Commodities Corp.
Post Office Box B
Hyrum UT 84319

American Hide Export Co.
1101 Market Street
Laredo TX 78040

Anglo-American Hide Co. Inc.
1170 Broadway
New York NY 10001

Armour & Co.
Grayhound Tower Sta. 1106
Phoenix AZ 85077

Bergmex Inc.
9575 Katy Freeway, Su. 260
Houston TX 77024

Cahen Trading Co. Inc.
1750 SW Skyline Blvd.
Portland OR 97221

Cartel Industries Inc.
Post Office Box 2707
Amarillo TX 79105

Cox Hide Co.
Post Office Box 212
Butler MO 64730

David Mindel & Sons Exp. Co.
3520 E. Vernon Avenue
Los Angeles CA 90058

Delft Blue-Provimi Inc.
99 Bartley Road
Flanders NJ 07836

Dietrich Hide Corp.
470 Atlantic Ave., Su. 900
Boston MA 02210

Eagle Export Company Inc.
3604 12 S Iron Street
Chicago IL 60609

A. Mindel & Son, Inc.
4200 Creekside Avenue
Toledo OH 43612

American Hair Exports Inc.
Post Office Box 80312
San Diego CA 92138

Anamex Corporation Int.
Post Office Box 3336
Green Bay WI 54303

Arm-Kop Hide Co. Inc.
3600 Wilshire Blvd., #1726
Los Angeles CA 90010

Baker Hide & Fur Co. Inc.
Post Office Box 5403
Tampa FL 33675

BSK Inc.
312 E. Wisconsin Avenue
Milwaukee WI 53202

California Yamaichi Inc.
626 Wilshire Blvd., Su. 906
Los Angeles CA 90017

Chilewich Corporation
120 Wall Street
New York NY 10005

Daewoo Intl. America Corp.
1055 W. Victoria Street
Compton CA 90220

Delft Blue-Provimi Inc.
Provimi Road
Watertown WI 53094

Denison Hide Co. (IBP)
Post Office Box 448
Dakota City NE 68731

Dreiling Hide Company
Post Office Box 631
San Angelo TX 76902

Ermos Intl. Corp.
70 Pine Street
New York NY 10270

U.S. Hide Marketing Firms Engaged In Export Trade (Cont.)

Frank J. Schwab Assoc. Inc.
1370 Ave. of the Americas
New York NY 10019

G. A. Wintzer & Son Company
5 North Blackhoof Street
Wapakoneta OH 45895

G. Bernd Company
Post Office Box 4104
Macon GA 31208

General Hide Export Corp.
11 Park Place
New York NY 10007

George Barta Hide Co. Inc.
2400 Vallejo Street
San Francisco CA 94123

George H. Elliott Co.
130 N. Wells Street
Chicago IL 60606

Great Plains Processing
Post Office Box 2422
Sioux City IA 51107

Gruen Export Company Inc.
Post Office Box 17567
Milwaukee WI 53217

H. Y. Katz Hide Co. Inc.
3310 S. Blueridge Ct.
Thousand Oaks CA 91361

Harland M. Braun & Comapny
4010 Whiteside Street
Los Angeles CA 90063

Harold Braun & Co.
312 E. Wisconsin Avenue
Milwaukee WI 53202

Harold M. Brodsky Inc.
8618 Cheltenham Avenue
Philadelphia PA 19118

Harry Katzen Co.
Post Office Box 37
Reynoldsville PA 15851

Hickman & Clark Inc.
2611 E. Washington Blvd.
Fort Wayne IN 46803

Inter-American Trading
600 Third Avenue
New York NY 10016

Intermountain Protein Prd.
5260 West Old Bingham Hwy.
West Jordan UT 84084

Intl. Hide Processors Inc.
171 Madison Avenue
New York NY 10016

J. F. Rothschild Co. Inc.
1046 East 18th Street
Brooklyn NY 11230

Kanematsu-Gosho (USA) Inc.
333 S. Hope St., Su. 2800
Los Angeles CA 90071

Kasho USA Inc.
510 W. Sixth Street
Los Angeles CA 90014

Kaufmann Trading Corp.
600 3rd Avenue
New York NY 10016

LCM Company
Post Office Box 547
Chattanooga TN 37401

Lou Ana Industries Inc.
Post Office Box 591
Opelouses LA 70570

M. Aschheim Co. Inc.
271 Fifth Avenue
New York NY 10016

Marubeni America Corp.
Su. 4,000 1 IMB Plaza
Chicago IL 60611

Maurice Pincoffs Co. Inc.
Post Office Box 10919
Houston TX 77018

U.S. Hide Marketing Firms Engaged In Export Trade (Cont.)

Moyer Packing Co.
Post Office Box 395
Souderton PA 18964

N. American Hide Exporters
Post Office Box 6427
Pasadena TX 77506

National By-Products Inc.
Post Office Box 192
Mason City IL 62664

Nick Reucher & Sons Co.
1388 North Branch Street
Chicago IL 60622

Nissho-IWAI American Corp.
700 S. Flower Street, Su. 1900
Los Angeles CA 90017

Northland Hides
Post Office Box 233
Ellensburg Det. NY 12935

Ohsman International Corp.
Post Office Box 1196
Cedar Rapids IA 52406

Phila Hide Export Corp
249 South 24th Street
Philadelphia PA 19103

Riber Market Comm. Inc.
Post Office Box 2342
Sioux City IA 51107

San Fran Cty CA Skin Co.
813 Folsom Street
San Francisco CA 94107

South Tier Hide & Tallow
RD Z Maple Avenue
Elmira NY 14901

Southwestern Trading Co.
Post Office Box 33279
Houston TX 77033

Transcoast Intl. Inc.
2019 S. Acacia Court
Compton CA 90220

N. American Bi-Products Co.
40 E. 34th Street, #604
New York NY 10016

National B Products Inc.
Post Office Box 33195
Indianapolis IN 46203

Newon Industries Corp.
1 Penn Plaza, Rm. 1421
New York NY 10001

Nippi NY Inc.
155 E. 55th Street, Su. 6 H
New York NY 10022

Nomura America Corp.
510 W. Sixth Street, Su. 922
Los Angeles CA 90014

Nozaki America Inc.
1 World Trade Center, Su. 3441
New York NY 10048

Okura & Company
614 S. Flower Street, Su. 908
Los Angeles CA 90017

Pruitt & Co. Inc.
Post Office Box 1726
Muskogee OK 74401

Rockford Funding Corp.
401 Broadway
New York NY 10013

Sklut Hide & Fur Co.
Post Office Box 1566
Wilmington DE 19899

Southwest Hide Company
Post Office Box 7553
Boise ID 83707

Trans World Hide Corp.
411 First Avenue SE, Su. 308
Cedar Rapids IA 52406

Twin City Hide Inc.
491 Malden Street
South St. Paul MN 55075

U.S. Hide Marketing Firms Engaged In Export Trade (Cont.)

U.S. Hide Trading Company
Post Office Box 3636
San Clemente CA 92672

Union Hide Company Inc.
Post Office Box 218
Oakland CA 94604

United Industries Inc.
3225 SE 14th Avenue
Portland OR 97202

Victor Brothers Inc.
Post Office Box 294
Pleasantville NY 10570

Volkart Taylor Cooper Inc.
Post Office Box 656
Dallas TX 75221

We Company
3000 Standish Street
Detroit MI 48216

Young Hides
Post Office Box 24187
San Francisco CA 94124

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25-3651T-U-E-S-D-A-Y
APRIL 15, 1980**FDA ALTERS WITHDRAWAL PERIODS FOR DES-IMPLANTED CATTLE**

WASHINGTON: -CNS- The Food and Drug Administration today altered the time limits that diethylstilbestrol-implanted cattle must be held off the market once the implants have been removed. FDA increased to 41 days the withdrawal period for cattle whose livers and kidneys will not be used for human food; it was originally 35 days. The withdrawal period for cattle whose livers and kidneys will be used for food was reduced to 61 days from the previous period of 63 days.

NEWS AT A GLANCE

Major Packer Hides: There has been no trading reported or confirmed today. Reported offerings are very sparse, some heavy Texas steers, asking 40¢, held by one of the outside independent packers.

Small Packer Hides: Midwestern bulls, 95/105 lb. averages, all natives, today asks 19¢, FOB west of Chicago; no bids were reported for the hides.

Country Hides: No sales were reported today. Interest runs, in some cases about 5¢ below last confirmed trading.

Calfskins: 45¢ bid and refused on country skins.

MAJOR PACKER HIDES - There has been no trading reported to this time today. The market remains very quiet, with only limited inquiry and interest apparent for hides.

An outside independent packer is today offering heavy Texas steers, for which is asking 40¢, the high end obtained in trading yesterday. Most of the other sellers contacted reported having lists ready, although other quarters have said that there are some offerings available, and involving mostly branded hides-butts, Collies and branded cows. Inquiry was apparent today for native hides, particularly native cows, but none are seemingly available to test interest.

As previously mentioned, the Food and Drug Administration yesterday revised the "on hold" number of illegally DES-implanted cattle to about 261,300. And it was learned today that the investigation now includes 116 firms and individuals in 16 states.

SOVIET MEAT PRODUCTION UP - The USSR's meat production is said to total 2,703,000 tonnes in the first two months of 1980, up 13% from the comparable period in 1979. Pork production was up 10% at 660,000 tonnes.

SMALL PACKER-COUNTRY HIDES - The small packer market continues to report, for the most part, featureless. There was no confirmed trading today, nor was there any yesterday.

Midwestern small packer bulls, 95/105 lb. averages, all native hides, are available today at the asking level of 19¢, FOB west of Chicago. Some interest was reported for the offering, but did not result in any reportable bid level.

As noted, fleshed Southeastern thins, 40 lb. average, 35% brands, traded toward the end of last week at 38½¢, FOB.

No offering of conventional Midwestern thins have been uncovered of late to test market values for this selection.

Fleshed Midwestern lockers are again available, at the asking level of 32¢. Straight renderers, also fleshed, are asking 28¢. Last confirmed trading on No. 3's was at 21-22¢, reports today indicate interest only at 3-4¢ less than these levels.

CALFSKINS-KIPSKINS - An offering of Midwestern country calf-skins were bid 45¢ today; however, the seller declined to sell at that level. An offering of country kipskins today is asking 35¢; 40¢ had been heard asked last week, but even the lowered price has not produced interest.

ESTIMATED LIVESTOCK SLAUGHTER: Cattle under Federal inspection week to date 219,000, same period last week 175,000, same period last year 213,000. Calves week to date 17,000, same period last week 16,000, same period last year 18,000. Hogs week to date 753,000, same period last week 601,000, same period last year 551,000. Sheep week to date 41,000, same period last week 37,000, same period last year 39,000.

LIVE CATTLE REVIEW: Cattle futures were under pressure throughout the day, in large part because of rumors that the government would shorten the holding period for cattle illegally implanted with DES, traders said. On the close, futures were down 80 to 22 points. Other negative price factors today included weaker-than-expected cash cattle markets and a lack of followthrough, technically-based buying after Monday's strong close. Spot Apr closed today at \$65.15, Omaha Choice steers at \$61.75-64.00.

HIDES & SKINS PRICE GUIDE

TUESDAY, APRIL 15, 1980

<u>PACKER HIDES**</u>						
	<u>TODAY</u>	<u>4-8-80</u> <u>WEEK AGO</u>	<u>3-18-80</u> <u>MONTH AGO</u>	<u>4-17-79</u> <u>YEAR AGO</u>		
<u>Heavy Native Steers</u>						
River-Northern	37	35	36	94		
Short Freight	39N	39	42	94½		
<u>Light Native Steers</u>						
River-Northern	48	48N	53N	\$1.08		
Short Freight	48½N	48½N	53½N	\$1.08½N		
<u>Extreme Light Native Steers</u>						
	49N	49N	54N	\$1.09N		
<u>Heavy Native Cows</u>						
River-Northern-Plump	40N	40N	41N	96N		
Short Freight	44N	44N	- -	96½N		
<u>Light Native Cows</u>						
River-Northern-Plump-Medium	48½-50	48	54	\$1.11½-1.12N		
Short Freight-Plump	- -	- -	- -	- -		
<u>Spready Cows</u>						
Northern-Holstein-Light	42½N	42½	45N	\$1.00		
Northern-Holstein-Heavy	42½N	42½	45N	\$1.00		
<u>Heavy Texas Steers</u>						
	38-40	37-39	37-39	86 3/4N		
<u>Light Branded Steers</u>						
	43½	43N	- -	98		
<u>Butt Branded Steers</u>						
	34	33	32-34	88½		
<u>Colorado Steers</u>						
	29-31	30	30½	85		
<u>Branded Cows/Heifers</u>						
River-Northern	37-40	35	36	93		
Southwestern-Convntl-FOB	35	35	35	- -		
<u>Light Branded Cows/Heifers</u>	46N	46N	- -	- -		
<u>Native Bulls</u>						
River-Northern	18	20	25	68		
**As To Average FOB plant, Basis River Points.						
<u>CALFSKINS</u>						
<u>Big Packer:</u>						
River-Northern (Under 9½#)	\$1.00	\$1.00	\$1.40N	\$2.90N		
River-Northern (9½-15#)	86N	86N	\$1.15N	\$2.20N		
<u>Small Packer Allweights</u>						
	- -	- -	- -	\$1.50N		
<u>Country Allweights</u>						
	- -	52N	55	\$1.15N		
<u>KIPSKINS</u>						
<u>Big Packer:</u>						
River-Northern (15/25#)	60N	60N	80N	\$1.25N		
River-Northern (25/30#)	- -	- -	- -	\$1.05N		
<u>Small Packer Allweights-S.W.</u>	65N	65	- -	\$1.15N		
<u>Country Allweights-Midwestern</u>	- -	32N	35	85N		
<u>NYC TRIM SKINS</u>						
(Per Piece)						
Selection:	4-5#	5-7#	7-9#	9-12#	12-17#	17-25#
Packer-Eastern	\$6.00	\$7.50	\$10.50	\$11.50	\$12.00	\$14.00
Collector-Eastern	\$5.40N	\$6.75N	\$9.45N	\$10.35N	\$10.80N	\$12.60N
<u>OUTSIDE HIDES</u>						
<u>Small Packer, cents per lb., FOB Carload lots</u>						
<u>Midwesterns, Selected</u>			<u>Southwesterns, Flat</u>			
30/50's Avg	44/46#	- -	50/70's, Avg	58# (50% Brands)	- 36	
50/up's Avg	75#	31N	30/50's, Avg	45# (25-30% Brands)	- 45N	
50/60's, Avg	54/56#	42N				
<u>Midwesterns, Country, Flat</u>			<u>Thins, Flat</u>			
Locker-Butcher, Avg	56/58#	27N	Midwesterns, Avg	56/58#	- 38½N	
Locker-Butch-Rend, Avg	56#	26N	Southeasterns, Avg	48#	--	
Straight Renderers, Avg	54#	25	Fleshed, Avg	40# (35% Brands)	- 38½	
#3's, Avg	56/60#	21-22N	Eastern Dairy Cows, Avg	54/56#	- 44	
<u>Shearlings (As to Production)</u>			<u>Horsehides</u>			
Clips, \$10.00-11.25			Slaughterers, 35/up's, Avg	38/40#	- \$21.00	
#1's, \$9.75-10.75			Renderers, Basis Large,		\$10.00N	
#2's, \$9.15-9.50						
#3's, \$4.75-5.00						

DAILY HIDE AND LEATHER MARKET REPORT

INTERNATIONAL OFFICE:

300 West Adams Street, Suite 835, Chicago, IL 60606

Telephones: (312) 726-6971-6972

F-R-I-D-A-Y

SEPTEMBER 12, 1980

JULY 1980 HIDE EXPORTS

According to the Commerce Department, during the month of July the U.S. exported 1,447,400 whole cattle hides. Japan was shipped 631,800, Korea 235,500, Taiwan 153,300, the Peoples Republic of China 87,300, Canada 77,500 and Czechoslovakia 40,500. Exports of croupons totaled 61,900 in July. Exports of calfskins for the month came to 246,700, of which Japan took 218,700 and Canada 28,000. Kipskins exports totaled 13,000. Comparatively, in June the totals were: whole cattlehides, 1,612,800; croupons, 37,200; calfskins, 95,400; and kipskins, 27,000.

NEWS AT A GLANCE

Major Packer Hides: In packer trading today River light native steers 46c, heavy native cows 46-47c and Southwestern branded heifers 39c. Nothing very much was heard regarding butts and Collies: interest in these selections is still at steady levels.

Sheep Pelts: Southwestern No. 1 shearlings have traded at \$8.50, No. 2's at \$7.50 and clips at \$8.75. Kansas genuine spring lambs have brought \$8.30-8.95, each basis.

Small Packer Hides: There was no trading reported today, very little buyer interest has been found and that well below levels sellers are willing to entertain. Sellers are quite willing to wait for next week, however.

MAJOR PACKER HIDES - Earlier today, a large outside independent packer sold 6,000 Southwestern branded heifers 39c, up 2c. Later, this same packer reported trading 2,000 River heavy native cows 47c, up 5c yesterday's trading, but up 1c trading earlier in the week.

In other sales reported today, one of the major packers sold a truck each River light native steers 46c, up 2c and heavy native cows 46c, within a cent of other trading reported earlier in the day.

Other sellers reported a rather quiet day, although additional interest was noted for branded steer selections that ranged steady to several cents less. Interest on branded cows/heifers ranged from 2-7c less than the level obtained in trading today.

CATTLE & CALVES ON FEED - In 7 states on Sept. 1 totaled 7,045,000 head, 3% more than the revised figure of 6,827,000 on that date a year earlier. The number placed on feed during August, at 1,618,000, was 20% over last year's comparative of 1,350,000. August marketings, at 1,399,000, were 14% less than last year's 1,684,000.

As of Aug. 1, there were 6,887,000 head on feed, 4% less than last year.

Other disappearance during August, at 61,000 head, was 26% less than the 82,000 in 1979.

INDEPENDENT PACKER HIDES - A seller was bid 20c for bulls today; this level was passed as the producer had none to sell.

SMALL PACKER-COUNTRY HIDES - There were no sales of small packer hides on either a selected or flat basis reported today. Sellers have elected to carryover offerings into next week. Very little buyer interest was in evidence anyway, and even the little around was well below levels sellers were willing to entertain.

As noted, Midwestern 50/up's, 70/72 lb. averages, sold earlier in the week at 36½c, FOB east of Chicago.

Midwestern lockers are available at levels above 30c; buyer bid today were less than 30c, some considerably less. No offerings of renderers have been found of late to establish market values. No sales of No. 3's were confirmed this week, but reports in the trade indicate a conventional market of perhaps 20-23c.

ESTIMATED LIVESTOCK SLAUGHTER: Cattle under Federal inspection week to date 610,000, same period last week 501,000, same period last year 610,000. Calves week to date 42,000, same period last week 41,000, same period last year 50,000. Hogs week to date 1,828,000, same period last week 1,427,000, same period last year 1,682,000. Sheep week to date 104,000, same period last week 87,000, same period last year 107,000.

LIVE CATTLE REVIEW: Live cattle futures closed 17 points higher to 17 points lower, with the two nearby months posting the only gains. Oct settled at \$68.35 per CWT. The support in the nearby months was influenced in part by the recent strength in the dressed beef market and ideas that the firming trend will continue, traders said. Volume was estimated at 20,061 contracts, compared with 15,526 Thursday.

HIDES & SKINS PRICE GUIDE

FRIDAY, SEPTEMBER 12, 1980

PACKER HIDES**

	TODAY	9-5-80 WEEK AGO	8-15-80 MONTH AGO	9-14-79 YEAR AGO
<u>Heavy Native Steers</u>				
River-Northern	43	48-50	- -	64-65
Short Freight	- -	52½N	54	66½
<u>Light Native Steers</u>				
River-Northern	46	50½N	53½N	73
Short Freight	46½N	51	54 N	73½N
<u>Extreme Light Native Steers</u>				
	47N	51½N	54½N	74N
<u>Heavy Native Cows</u>				
River-Northern-Plump	46-47	48-52	54	63
Short Freight	- -	52½	- -	63½N
<u>Light Native Cows</u>				
River-Northern-Plump-Medium	46	45	52	73
Short Freight-Plump	- -	51N	- -	73½
<u>Spready Cows</u>				
Northern-Holstein-Light	42	47N	- -	64-65
Northern-Holstein-Heavy	42	47N	- -	64-65
<u>Heavy Texas Steers</u>				
	42	48-50	53-55	50-52
<u>Light Branded Steers</u>				
	- -	45	- -	55N
<u>Butt Branded Steers</u>				
	40	46½-47	50	53
<u>Colorado Steers</u>				
	38	44	48	45
<u>Cows/Heifers</u>				
Southwestern-Convntnl-FOB	37-39	41	49-50	52
Light Branded Cows/Heifers	34	36½	- -	- -
	39-42	47N	- -	- -

Native Bulls
 River-Northern 17 19 25B 50
 **As To Average FOB plant,
 Basis River Points.

CALFSKINS

<u>Big Packer;</u>				
River-Northern (Under 9½#)	- -	- -	- -	\$1.92N
River-Northern (9½-15#)	- -	- -	- -	\$1.36N
<u>Small Packer Allweights</u>				
	- -	- -	- -	90N
<u>Country Allweights</u>				
	42½N	42½	- -	- -

KIPSKINS

<u>Big Packer:</u>				
River-Northern (15/25#)	- -	- -	- -	\$1.00N
River-Northern (25/30#)	- -	- -	- -	85N
<u>Small Packer Allweights-S.W.</u>				
	- -	- -	- -	- -
<u>Country Allweights-Midwestern</u>				
	27½N	27½	- -	- -

NYC TRIM SKINS

(Per Piece)	4-5#	5-7#	7-9#	9-12#	12-17#	17-25#
Selection:	4-5#	5-7#	7-9#	9-12#	12-17#	17-25#
Packer-Eastern	- -	- -	- -	- -	\$15.75N	\$18.00N
Collector-Eastern	- -	- -	- -	- -	\$14.20N	\$16.20N

OUTSIDE HIDES

Small Packer, cents per lb., FOB Carload lots

<u>Midwesterns, Selected</u>		<u>Southwesterns, Flat</u>	
30/50's Avg 44/46#	- -	50/70's, Avg 58/60# (50% Brands)	- -
50/up's Avg 70/72#	36½	30/50's Avg 45/47# (50% Brands)	- 43N
50/60's, Avg 54/56#	- -		
<u>Midwesterns, Country, Flat</u>		<u>Thins, Flat</u>	
Locker-Butcher, Avg 57#	27	Midwesterns, Avg 54/56#	- 45N
Locker-Butch-Rend, Avg 59#	26	Southeasterns, Avg 48#	- -
Straight Renderers, Avg 52/54#	- -	Fleshed, Avg 40# (35% Brands)	- 38½
#3's Avg 52/54#	- -	Eastern Dairy Cows, Avg 54#	- 49N
<u>Shearlings (As to Production)</u>		<u>Horsehides</u>	
Clips, \$8.75-9.60		Slaughterers, 35/up's, 40/45#	- \$21.00N
#1's, \$8.50-9.10		Renderers, Basis Large,	\$10.00N
#2's, \$7.50-8.10			
#3's, \$5.25			

THE LIVESTOCK SITUATION

SEPTEMBER 12, 1980.

TODAY		NA (Not available)			OMAHA LIVESTOCK PRICES			
SALABLE RECEIPTS		HOGS	CATTLE	SHEEP	SLAUGHTER CATTLE			
Eleven Markets, Today	32,000	3,800	3,800	400	Top Strs Today	\$71.75H		
" Week Ago	30,100	3,300	3,300	400	Steers, Prime	70.50-71.75		
" Year Ago	39,600	5,300	5,300	400	" Choice	68.00-70.50		
" 2 Years Ago	31,000	7,100	7,100	400	" Good	63.50-69.00		
" Week To Date	187,500	45,700	45,700	11,700	" Standard	62.00-67.50		
" Week Ago	160,100	78,100	78,100	9,100	Heifers, Prime	67.50-67.75		
" Year Ago	207,600	105,900	105,900	12,200	" Choice	65.50-67.25		
" 2 Years Ago	175,600	121,200	121,200	11,500	" Good	60.00-65.50		
***** OMAHA MARKETS *****					Cows, Commercial	43.50-46.00		
Receipts Today	3,500	1,300	1,300	0	" Canner/Cutter	40.00-44.00		
" Week Ago	2,800	1,800	1,800	0	Bulls, Ut. CM. Gd	52.00-59.00		
" Year Ago	4,500	1,500	1,500	0	OMAHA SLAUGHTER SHEEP LAMBS			
" Week To Date	19,000	13,800	13,800	1,700	Top Lambs today	65.00H		
" Week Ago	15,800	12,000	12,000	900	Lambs, Sprg.	62.00-65.00H		
" Year Ago	22,200	15,800	15,800	1,850	Ewes	10.00-13.50H		
" Est. Monday	5,000	5,500	5,500	500	Kansas City, Top	65.00H		
Markets Today	Steady	Steady	Steady	-	" Lambs, Sprg.	62.00-65.00H		
HOG MARKETS:					Ewes	Nominal		
Kansas City	1,000	\$48.00	Mkts-Hogs-Today	90,000	PEORIA LIVE HOG PRICES			
Omaha	3,500	48.75	" Week Ago	69,000	Top Hogs, Today	49.00		
St. Louis	5,000	48.50	" Year Ago	33,000	US 1-2 210-240	48.50-49.00		
St. Joseph	2,300	48.25	" Week to date	517,000	US 1-3 200-250	47.50-47.50		
Sioux City	4,500	48.50	" Week Ago	417,000	US 1-3 250-270	46.50-47.50		
St. Paul	6,500	47.50	" Year Ago	514,000	US 2-3 270-300	45.00-46.50		
Indianapolis	1,100	49.00	#Est.		US			
Okla. City	200	NA	Peoria Hog Rects.	4,000	Top Sows, Today	46.75		
Sioux Falls	4,000	48.50	today. R&G's in moderate		Sows 1-3 350-450	43.00-43.50		
Joliet	1,000	49.25	trade, steady-25¢ up; top		1-3 450-500	44.50-45.50		
West Fargo	50	NA	\$49.00. Sows stdy-50¢-51		1-3 500-650	46.00-46.75		
Springfield	19,000	47.75	lower; top 46.75.					

NEW YORK MARKETS, FEEDS, ECT. - Dry Rend. Tankage, Etc.: Quasi-steady undertone to the Eastern renderer protein market with sources continuing to acknowledge a continuing tight supply situation in both finished & unground. Feed manufacturers have most recently engaged in fill-in purchases of 50% meat meal from \$270.00 to \$280.00 FOB a ton, but by no stretch of the imagination can demand be described as aggressive. Eastern blenders continue to reach into the Midwest for supplementary supplies of "cracklings" with premium prices generally being paid. WEEKLY DRT AVG: \$4.96

CHICAGO-MIDWEST-NEW YORK-FEEDING MATERIALS, ETC. (Sacked)

Dried Blood, Ungr.	Del'd 21.29	Digester Tankage, 60% FOB	\$287.50
" " N.Y.	FOB 22.29N	Meat & Bone Meal, 50%	275.00-277.50
Tankage, Ungr. Low Test	Del'd 15.00N	" " " Ft. Worth	275.00
" " Medium	" 15.00N	Meal, Linseed Mpls.	170.00-175.00N
" " High	" 14.50N	" Soybean Decatur	231.00-232.00
" " Eastern	FOB 15.50-15.75N	" Cottonseed Memphis	232.50N
" Dry Rendered, HI Test	Del'd 5.10-5.20N	" Bone, 1-60%	220.00N
" " Medium	" 5.20-5.30N	Hominy Feed per ton ILL	118.00-120.00
" " Low	" 5.10-5.50N	Bran, Per ton K.C.	112.00
" Nothernhigh Low	" 5.10-5.50N	Sunflower Meal, FOB, Minn.	110.00-125.00
" N.Y. 50-55% protein	FOB 5.00	#Gluten Meal, 60% Chgo.	300.00-312.00
" Feather, Midwest Bulk	Del'd 250-265.00	#Gluten Feed	125.00-135.00
" " Eastern	FOB 240-245.00	#Dehy Alfa. 100,000 "A" FOB	98.00
" N.Y. Ammonia 17%	14.12-14.41	Brewers Grains Milw.	115.00-124.00
Standard Middlings#	Chgo. 114.00	Stab. Yellow Grease, Del Mar, VA	12.5-13
Standard Bran#	" 114.00	Feather Meal, 80-85% S. EAST	240.00-245.00

SOUTHEASTERN AREA MARKETS (All Bulk Basis)

Meat & Bone Meal, 50% FOB	270-280.00	Poultry By-Products, 55%	FOB 275.00-295.00
Dry Rendered Tankage "	5.00	" (Ga. Ala.)	280.00-300.00
Menhaden Fish Meal "	410-425.00	" Meal 60%	" 285.00-305.00
Stabilized Fat	14.2-15	Peruvian Anchovy Meal	Nominal

MONTHLY CANADIAN SLAUGHTER.

Slaughter, No. Head:	CATTLE	HOGS	CALVES	HOGS	SHEEP
July 1980 slaughter	233,336	21,039	964,043	8,311	
June 1980 "	307,393	31,797	1,264,532	10,104	
July 1979 "	208,265	17,947	801,326	5,405	
7 months 1980 "	1,722,218	202,376	7,519,577	58,788	
7 " 1980 "	1,693,699	206,696	6,119,679	46,696	

SHEEPSKINS.

Southwestern #1 shearlings sold this week at \$8.50, #2's at \$7.50 and clips at \$8.75, in good volume. Kansas genuines have recently sold in a range of \$8.30-8.95, each. Western Slopes have been confirmed at \$11.50-11.75, each.

FRIDAY.

ANIMAL OILS	FOB	CHGO	(*ALL LCL)
Acidless Tallow	Tanks	32	3/4-34 3/4
Prime Burn, G. Oil	"	33	3/4-34 3/4
" gr. oil	"	32	3/4-34 3/4
Extra W. S. gr. oil	"	32	3/4-33 3/4
" gr. Oil	"	31	3/4-32 3/4
No. 1 gr. oil	"	30	3/4-31 3/4
Acidless Tallow	*Drums	36	3/4-37 3/4
Prime Burn, gr. oil	"	37	3/4-38 3/4
"gr. oil	"	37	1/4-38 1/4
Extra W. S. gr. oil	"	36	3/4-37 3/4
"gr. oil	"	36	3/4-37 1/4
" No 1 gr. oil	"	35	3/4-36 3/4
No. 1 gr. oil	"	34	3/4-35 3/4
No. 2 gr. oil	"	34	1/4-35 1/4
Meatsfoot (Pure)	"	46	
" 20 degree oil	"	49	
" 30 degree oil	"	48	

TALLOW (Del'd)	*CHGO BASIS)
Edible Tallow*	tanks 24N
Fancy, Regular	20 1/8N
Fancy, Bleachable	19 1/2-20A
Choice	19N
Prime or Extra	17 1/2N
Special	15 1/2
No. 1	13 1/2N
No. 3	13N
No. 2	11 1/2

GREASES	tanks
White, all hog	18 1/2-18 1/2
" Choice	17 3/4N
"a" White	17 1/4N
"B" White	15 1/2
Yellow	13 1/2N
House	13N
Brown	11 3/8N

LARD-FAT	"
Loose lard	23 1/2N
Rend. Pork Fat	22 3/4N

NEW YORK MARKETS (FOB)	Wagons
Fancy, Bleachable	11 1/4
Renderers' Extra	1 3/4
" Special	10 1/8
" No. 1	7 5/8
" No. 2	7 1/8
Greases-all hog chwh	14
"B" White	10
Yellow, 15 acid	7 5/8
House (nom)	6 3/8
Brown (nom)	5 5/8

N.Y. GLYCERINE	99% drums	55.25
High Gravity (1cl)	tanks	47.25
C. P.	96% drums	54.00
C. P.	tanks	16.00
Soaplye 80%	"	Nom.
Saponification 88%	"	30.00

VEGETABLE OILS	Valley	28
Crude, Csoil	Texas	27N
" "	S. East	26N
"Coconut Oil	W. Coast	29
" " "	New York	31 1/2N
"Corn	Midwest	28 1/2
"Soya	Decatur	25.98
"Peanut	South	35 1/2
"Linseed	Mpls	30
Foots, Acit 95% Del'd	10.50-13.00	
Sunflower Oil, Minn.	27.38-27.75	

SEPTEMBER 12, 1980.

WEEKLY SOYBEAN CRUSH

The National Soybean Processors Assn.'s board of directors reported 18,729,601 bushels of soybeans were crushed the week ended Sep 10. This compares to 19,077,691 last week and 16,414,000 bushels for the comparable week a year ago. Total crush capacity is 26,452,255 bushels per week, representing approximately 90-95% of the industry's crush capability.

USDA BUYS BONED CHICKEN

WASHINGTON: The USDA announced it has purchased 961,000 pounds of canned boned chicken for school lunch and other domestic feeding programs. Prices paid ranged from \$1.09745-1.1149 per pound for a total approximate cost of \$1,061,000. Total purchases since the program began now amount to 2,292,000 pounds at an FOB cost of about \$2,501,000. Next offers are due by 1300 EDT, Sep 16. Acceptances will be made by midnight, Sep 19, for shipment the week of Nov 2.

OILSEEDS DEMAND

Demand for oilseeds or products was generally quiet today, although demand for soyoil surfaced this week, according to U.S. exporters.

Bangladesh earlier this week purchased 10,000 tonnes of refined, bleached deodorized palm oil, exporters said, but price and shipping details were not available.

There are strong indications Venezuela this week purchased 5,000 tonnes of PBSY cottonseed oil, but confirmation and details are lacking. Indications are Venezuela is still inquiring for vegetable oils; there is no formal tender however.

FEEDING CONCENTRATES

CHICAGO -The Midwestern unground market concludes the week sans open bids, offerings and confirmed new trading. Neve: theless, "crackling" prices have posted sizeable gains during the past 5 days. In line with expectations 50% meat meal has temporarily topped out with some Illinois trading confirmed today from \$277.50 to \$275.00 FOB a ton. Missouri River nominally pegged \$270.00 to \$275.00. Initial sales of Texas Panhandle finished occurred at \$252.50 FOB with subsequent on-track offerings showing at \$255.00 FOB. Jobber interest tops at \$245.00 FOB.

TALLOW AND GREASE

NEW YORK - These markets continue to be extremely quiet with no new sales acknowledged especially after the nose-dive that soybean futures took on The Board. WEEKLY AVERAGE: Bleachable Fancy, 14.25c, Renderers' Extra, 13.25c and Yellow Grease, 7.625c.

CHICAGO - Scattered sales reported early in the day at 20c; however, some trades were to cover short positions. Choice White Grease sold late yesterday at 18 1/2c. Edible tallow nominally 24c. Lard nominally 23 1/4c.

